

ARIZONA MEDICINE

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ARIZONA MEDICINE

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Original ARTICLES

HYDATID MOLE AND CHORIONEPITHELIOMA

A Five Year Survey of Cases in Three Phoenix Hospitals From 1947 to 1952.

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IT IS generally agreed that the greater is one's experience or familiarity with a given condition, especially a rare one, the more alert will he be in considering it in the diagnosis, and be better able to formulate definite ideas as to the proper treatment, aiming, to a more desirable result, with consequent reduction of morbidity and mortality.

The difficulties encountered in diagnosis and the variance of opinion with respect to treatment in cases of hydatid mole and chorionepithelioma led the author to survey the cases encountered in three Phoenix hospitals for a five year period (1947-1952) with a view to evaluating diagnostic methods, changing concepts in treatment, and hormonological interpretations. A follow-up of all cases, where feasible, was done.

It appears that the greatest single advance made with respect to diagnosis and treatment of hydatid mole and chorionepithelioma was accomplished with the introduction of the Ascheim-Zondek test in 1929 and the recognition of the tremendous concentration of the chorionic gonadotropic hormone in the urine and blood in these two conditions.

The striking reduction in mortality from these conditions since the advent of this test, namely 12% and 60% for mole and chorionepithelioma respectively before 1930, to 2% and 10% at present, attests to its real importance. However, in spite of these striking figures, it is indeed surprising that in many cases the test is rarely

utilized to fullest advantage, and in many cases not even performed at all.

Mathieu(1) states that up to 1930, the diagnosis of hydatid mole rested practically on the presence of hydatid mole vesicles, the spontaneous evacuation of the mole, or by post-operative examination of tissues following curettage, and the diagnosis of chorionepithelioma was rarely or almost never made until metastasis had occurred. Even though diagnostic criteria are adequate, he feels that diagnostic acumen is lacking and maximum results are not obtained because of inertia on the part of the clinician or to non-acceptance of the newer criteria.

If more patients who abort would have the tissue passed subjected to microscopic examination, and also, if more curettages would follow these abortions, it would probably reveal a greater incidence of hydatid degeneration. In a recent study by Hertig and Edmonds(2) they showed that approximately 50% of all spontaneous abortions are due to defective ova, and of these blighted ova, over 50% presented hydatid changes in the villi. They believe that the etiology of mole is linked up with the interference of fetal chorionic circulation in these pathologic ova, producing the explanation for the absence of blood vessels and the edema of the stroma. They also believe that a typical hydatiform mole is derived from a true pathologic ovum in which the embryo was either absent or very defective from the beginning, and which, for reasons unknown, failed to abort at the usual time, moles constituting then a type of "missed abortion".

*Read, in part, before Second Annual Meeting of the Southwest Obstetrical and Gynecological Society, Tucson, Arizona, November 14, 1952.

Some authors (Graffagnino and Jeffreys)(3) maintain that because of the possibility of hydatid degeneration, which may not be clinically evident, as well as to prevent infection and continued bleeding from retained products of conception, most cases of abortion before the third month of pregnancy should be followed by curettage. They also believe that over-enthusiastic use of corpus luteum is contra-indicated because of the frequency of hydatid degeneration of the chorion in the presence of an abnormal fetus or in the absence of a definite fetus.

Pathologically, a mole is a degeneration of the connective tissue of the chorionic villi plus a proliferation of the epithelium of the villus, both Langhans' cells and syncytium, with sometimes the formation of several layers of the former.

Since the gonadotropic hormone titer is exceptionally high in both these conditions, it would appear to offer a means of making earlier diagnosis, without waiting for spontaneous passage or needless and expensive treatment of threatened abortion. More important it offers means to be able to diagnose chorionepithelioma without relying on diagnostic curettage or unwitting temporization with development of metastasis during the waiting period.

Many conflicting statements have appeared in the literature from time to time with respect to the proper management of these two conditions, viz; the necessity for routine curettage following molar expulsion, the manner of follow-up with the A. Z. test, especially as to frequency and length of time they should be continued, the significance of the "persistent positive" A. Z. test, as against the detection of a rising titer of gonadotropic hormone in the follow-up of mole. Also, some authors feel that the proper approach in the treatment of mole is by abdominal hysterotomy with digital and visual exploration of the uterine cavity to determine the existence of a complicating chorionepithelioma. Opinion also differs with respect to the management of the lutein cystomata, which are present in about 50% of the cases of mole. The earlier texts advise their removal, but the trend recently has been to allow them to resorb, regardless of their size.

The necessity for deely X-Ray therapy and length of time to be employed following extirpative surgery for chorionepithelioma and whether or not A. Z. tests need be employed

following surgery for chorionepithelioma while X-Ray therapy is being used, is also controversial.

An attempt will be made to analyze the cases in the light of these conflicting opinions with a view to determining the most rational procedure to follow, as well as to evolve a possible working basis for establishing an earlier diagnosis.

MATERIAL STUDIED

There were a total of 19 cases of hydatid mole in three Phoenix private hospitals between June 24, 1947 and April 8, 1952, with 6 cases at Memorial Hospital, 4 at St. Joseph's and 9 at Good Samaritan. There were 2 cases of chorionepithelioma in this series, both at Memorial Hospital and both occurring in 1949. The total number of live births in the 3 hospitals from 1947 to 1951 inclusive, was 30,659, making a .061% incidence of mole, or 1 case of mole in 1,614 deliveries and 1 chorionepithelioma in 15,329 deliveries. The number of moles per year is as follows: 1947-2; 1948-0; 1949-7 cases (4 at one hospital); 1950-5; 1951-4; and 1 in 1952 thus far.

The age incidence was 15 to 42 with the average age being 24 years. In two cases the age was not stated. There were 10 cases in the 20 years or younger group, 2 in the 26 to 30 age group, 1 in the 31 to 35 group, 2 were in the 36 to 40 group and 1 over 40.

There were 7 primigravidas and 12 multigravidas. The incidence was 36% in primigravidas, which, compared with other series reported(4, 5) represents a rather high incidence in this young group of patients. The 2 cases of chorionepithelioma were both in multiparas.

The history of previous abortions or abnormal pregnancy was extremely low, with only 2 of the multiparas having had pathology, one a previous full term stillbirth, and the other, 2 previous spontaneous abortions. This latter patient is significant in that her third pregnancy terminated in hydatid mole.

The average duration of pregnancy at the time of diagnosis of mole was 4.1 months. In 4 cases the pregnancy was felt to be far enough advanced with the uterus correspondingly enlarged that X-Rays of the abdomen for fetal parts were sought for but not demonstrated. Bleeding in the second trimester did not appear to cast suspicion on hydatid mole.

Bleeding constituted the cardinal symptom in all the cases, varying from spotting to massive

hemorrhage. The duration of bleeding also varied from a few days before admission to as long as 6 months. Cramps accompanied bleeding in most cases. There was no appreciable elevation of temperature, except in one case, and no definite sepsis. No cases had been preceded by attempts at criminal abortion, according to the records. Only 2 patients reported having felt life. In one patient it was highly improbable, as the duration of pregnancy was 3 months and the uterus 4 cm. above the symphysis. This was the only patient exhibiting hyperpyrexia (102°F.), as well as toxemic manifestations of headaches, vomiting, hypertension and albuminuria. She expelled a mass in the hospital resembling mole and there was no evidence of a fetus. She reported the absence of quickening 2 weeks before passage of the mole. The other patient who stated she ceased feeling life for 1 week prior to admission was thought to be an example of intrauterine fetal death probably due to premature separation of the placenta, but the patient expelled a mole while preparing her for D. & C. In no case was fetal heart tone recorded. There was one case associated with a macerated fetus, which was removed during an abdominal hysterotomy for mole.

Toxemic manifestations were fairly infrequent in contrast to other reported series.(6). Only 3 patients exhibited this complication, the one patient cited above, who interestingly enough had toxemia with a previous pregnancy resulting in a stillbirth, another patient with vomiting during the entire 2 months of her mole pregnancy and the 3rd patient in a primigravida who had marked edema of the feet, legs and waist, B.P. 144/82, who expelled a mole 1 day after admission. In this mole the pathologist reported a definite overgrowth of syncytial trophoblasts and classified it as more "potentially dangerous". The association of early toxemic manifestations with this type of mole may have more than academic significance. There were no cases of true eclampsia.

Size of Uterus

The size of the uterus with respect to the duration of pregnancy was variable. In 7 patients the uterus was larger, whereas in the remaining 12 patients an equal number were smaller or of corresponding size. This represents a 63% incidence of disproportionately smaller uteri than expected and points up the lesser importance and lesser frequency of the

disproportionately larger uterus. Of the 6 patients in which the uterus was smaller than for the corresponding amenorrhea, the duration of pregnancy in 4 patients was from 5 to 6½ months. It seems that those patients with the smaller uteri appeared to have a longer period of bleeding, in one patient for as long as 6 months, just as one would expect to see in missed abortion.

The incidence of frequent hospital admissions were not as great as expected, the chief reason probably being that all of them were private patients and nowadays with mounting hospital costs and overcrowding, most patients with threatened abortion are treated at home. In 3 patients re-admissions had to be made for recurrence of bleeding after molar evacuation by D. & C. 2 patients were re-curetted with no further recurrence of bleeding, and in the 3rd patient a hysterectomy was performed. In none of these patients were biologic pregnancy tests done.

It will be of interest to note here that in none of these patients did the pathologist report any evidence of retained mole tissue or chorion-epithelioma. The hysterectomy was performed for a preoperative diagnosis of corpus luteum cysts and subinvolved uterus.

The correct diagnosis in these patients was not made until mole tissue was either passed prior to admission, after entering the hospital or at the first inspection of the cervical os at the time of operation. The diagnosis in their order of frequency were: Threatened abortion, incomplete abortion, missed abortion, intrauterine fetal death due to premature separation of placenta, possible mole and possible ectopic pregnancy. In one patient the diagnosis was made after passage of vesicles following uterine bagging. The duration of pregnancy was 6 months in this patient. In no patient was the diagnosis made by the pathologist solely on the basis of tissue passed or on the curettings. All patients presented sufficient gross morphologic characteristics to warrant diagnosis and were substantiated by the pathologist. In 2 patients the diagnosis as well as treatment was effected by abdominal hysterotomy. In both these patients the diagnosis was suspected, however, but conditions present necessitated the abdominal approach. In one patient with the uterus disproportionately larger than 4 months pregnancy, marked bleeding was encountered on vaginal examination, and the cervix not being sufficient-

ly dilated, hysterotomy was elected. The other patient, a 38 year old grava iii, para ii, presented massive bleeding at 4 months, a mole was suspected, and with no response to pituitrin, and with a firm undilated cervix, an abdominal hysterotomy evacuated a macerated embryo which was found lying among grapes of mole tissue.

The biologic pregnancy test was not utilized in any of the patients to establish the diagnosis of mole. Perhaps if these patients had made earlier admissions to the hospital with more careful evaluation of their pregnancy, the diagnosis may have been suspected and possibly confirmed by the quantitative biologic tests. In many instances these patients had not presented themselves for prenatal care and the first inkling the physician had of the existence of pregnancy came at the onset of bleeding. Most physicians are reluctant to have patients in early pregnancy make a trip to the office when bleeding takes place. This undoubtedly accounts for delay in diagnosis as well as the opportunity to study the situation more carefully. The propriety of interfering with an otherwise normal pregnancy, with perhaps slight bleeding, on the strength of an abnormally high gonadotropic hormone titer is also conjectural, especially if the pregnancy is about 60-90 days, when the hormone titer is normally at its peak.

Lutein Cysts

In only 2 patients were definite lutein cysts present and in both cases they were bilateral. In one patient the ovaries were palpable abdominally, and in the other were apparently the basis for hysterectomy 3 weeks following evacuation of the mole by curettage. Toxemia was not associated here, nor was there any record of the Asheim-Zondek test. In both these patients bleeding was present for 3 months, which serves to substantiate Mathieu's theory of the need for ample time for cysts to develop before evacuation of a mole.

Biologic Pregnancy Tests

A surprising lack of reliance on these tests is noted in this series. Whether or not tests were performed prior to admission is not known nor otherwise recorded. Inasmuch as all of these patients were followed by their respective private physicians, it is extremely likely that follow-up tests were done and repeated at frequent intervals. It seems hardly necessary to subject a patient to the cost of an A.Z. test immediately after passage of a mole and D. &

C., with absence of further bleeding or other complication. A positive test within 4 weeks after passage without bleeding has little clinical significance. As no follow-up was possible here, no "persistent positive" tests have been detected, and no definite chorionepithelioma was known to develop in this series of mole patients. There were no biologic pregnancy tests on the spinal fluid.

D. & C.

In 14 patients dilatation and curettage was performed as the sole treatment. In 2 patients the procedure was repeated 4 weeks and 6 weeks later for recurrent persistent bleeding. In no patient did the biopsy of curettings serve to establish the diagnosis, the latter having been made either prior to the procedure because of expulsion or at the time of operation. In no patient did the curettings disclose chorionepithelioma or malignant mole, but one case was reported as "potentially more dangerous than simple mole". In the 2 patients that required repeat curettage, the pathological findings did not report mole tissue. However, in one patient the report indicated "atypical hyperplasia of the endometrium, with decidual reaction and syncytial giant cells", and the other "endometrium in late proliferative phase with minute extensions into bits of underlying myometrium". This report would suggest some degree of adenomyosis, and it is interesting to speculate here on the greater invasive propensity of a mole occurring in an adeno-myomatous uterus.

One patient passed a large mass 1 day prior to hospital entry and this was reported as mole. More tissue was expressed during pelvic examination and the patient was treated without D. & C., and sent home in 2 days. There is no record of her return. There were no complications of the procedure of dilatation and curettage and no perforations of the uterus occurred, either spontaneous or traumatic. In one patient most of the mole was expressed preceding the D. & C. by simple fundal pressure.

Surgery for Mole

Major surgery was performed on 3 patients (16%). In one patient, that of a 20 year old secundigravida who was originally treated by bagging followed by D. & C., after expulsion of a mole, returned with pain and vaginal bleeding 3 weeks later. The clinical impression was corpus lutein cyst and subinvolution of the uterus. She was subjected to total abdominal hysterectomy and bilateral salpingo-oophorec-

tomy. The pathological diagnosis was lutein cysts, the uterus thickened and hypertrophic, otherwise negative. No evidence of retained mole or chorionepithelioma. There was no record of biologic pregnancy tests in this case.

The second patient treated surgically was that of an 18 year old primigravida admitted with profuse vaginal bleeding. The uterus was about 6½ months in size, the duration of pregnancy, 4 months. Hydatid mole was suspected, and other possibilities were single or multiple pregnancy with premature placental separation. X-Ray showed a soft tissue mass, to level of 2nd lumbar, without bony densities therein. Sterile vaginal revealed vagina filled with dark black clots and the cervix barely 1 cm. dilated, but rather well effaced. Clots could be felt inside the cervix and after removing the examining finger, a large gush of dark blood followed. Patient was then prepared for laparotomy. The uterus approximated the size of a 7 months pregnancy. A low cervical Cesarean section was performed and on opening the uterus great quantities of bloody grape-like material was aspirated completely filling a large wash basin. Remnants of this tissue were removed as well as possible and then the uterus tightly packed with 2" gauze with the free end passed down through the cervix into the vagina. Usual repair. Patient made a good recovery and was discharged in 8 days.

The large size of the uterus in this patient undoubtedly betokened a pathological complication of pregnancy other than mole as attested by the low cervical approach. A hysterotomy type of incision would have effected a better inspection of the incised wall of the uterus with a much simpler means of evacuation and exploration of the uterine cavity.

The 3rd patient treated surgically is somewhat unique. A 38 year old Grav. iii, Para ii was admitted for the second time for vaginal bleeding. She was in the 4th month of pregnancy and developed a severe hemorrhage the day of admission. Pituitrin was of no avail. The uterus was at the level of the umbilicus. The cervix was undilated and uneffaced. Hydatid mole was strongly suspected and abdominal hysterotomy seemed the best procedure. Body of the uterus was opened in the midline, mole encountered and evacuated. A macerated embryo was present among the grapes of mole tissue. Usual closure. Uneventful recovery. She made her next admission in March 1951, 3½ years

later when 2 months pregnant, complaining of a metallic taste which patient believed suspicious of cancer. She was obsessed with the belief that this was another mole and that it may well be or become malignant. Opinion expressed by the obstetrical consultant was intrauterine pregnancy with anxiety neurosis and he advised "therapeutic abortion in the interests of patient's welfare". The attending obstetrician felt that there was some presumptive evidence of a new mole, and coupled with the extreme anxiety of the patient to the point of being terrified, a hysterectomy seemed indicated. Preoperative diagnosis also included retroversion and chronic cervicitis. Total hysterectomy and appendectomy performed. Path. report: Gravid uterus with 25 mm. fetus, placenta and membranes. Rapid recovery, including improvement of mental state.

Subsequent Pregnancy

There were a total of 6 pregnancies following mole, 2 of them in one patient. Inasmuch as this represents the number of pregnancies in 16 cases in the past 5 years, with the most recent mole in April 1952, the incidence of subsequent pregnancies is fairly high. All the subsequent pregnancies were normal deliveries at full term. There were no recurrent moles and no subsequent abortions.

In only one patient had an X-Ray of the chest been taken before discharging a mole patient home. This proved to be negative.

There was no mortality in this series.

Chorionepithelioma

There were 2 cases of chorionepithelioma. Both occurred at the same hospital, and both in 1949:

Case 1.

A 25 year old white female was admitted to Memorial Hospital (then St. Monicas), on May 21, 1949, with a history of vaginal bleeding a few days prior to entry. She was a Grav iv, Para iii, and was presumably pregnant, her LMP having been 3-23-49, and was now about 3 weeks late. Her past history disclosed an appendectomy 5 years previously and a D. & C. 2 years previously, cause undetermined. Admission temperature 100°F., pulse 90 and B.P. 110/80. The abdomen was soft and flat with tenderness over hypogastrium.

The diagnosis was incomplete abortion on the basis of the history. A vaginal was not done. On 5-24-49 a D. & C. was performed and numerous irregularly shaped fragments of dark

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reddish brown spongy tissue varying in size and shape was obtained, along with numerous blood clots.

Pathological report revealed an "endometrial-like tissue in which the stromal cells present an atypical appearance. Many of them resemble squamous epithelium. In other places there are characteristic syncytial cells growing in irregular sheets noted. Langhan's cells arranged in small groups and multinucleated giant cells are found throughout the tissues and in many of the sinuses. In some places the tumor masses lie loosely. In other places they are adherent to the walls. Fibrin masses are also found to be mingled with the tumor cells. In many areas there is considerable variation in size, shape and staining capacity of the cells and the nuclei are hyperchromatic and present large nucleoli. Diagnosis: Choriocarcinoma of the uterus".

On May 26, 1949, a total abdominal hysterectomy and bilateral salpingo-oophorectomy was performed. Gross Description: On opening the uterus anteriorly and into the horns, the endometrial surface was found to be thin, but irregular and ragged in the region of the fundus. There is an area of infiltration into the myometrium. It is reddish brown in color and measures .5 cm in diameter. Cervix showed no gross pathology. The ovaries were negative except for a small corpus luteum in one. Tubes likewise negative. Microscopic: Uterine sections revealed a marked alteration of the endometrium. The uterine wall is lined by a necrotic tissue which is diffusely and intensely infiltrated with lymphocytes, plasma cells and numerous polyps. Large blood vascular channels are packed with RBC's. Here and there, clumps of atypical, large epithelial cells presenting hyperchromatic nuclei and an occasional mitotic figure are seen. Some of these are found infiltrating the myometrium.

In many sections the endometrium presents a decidual-like reaction of the stromal cells. The gland acini are lined by hyperplastic and hypertrophied epithelial cells presenting hyperchromatic nuclei. The fibromuscular stroma of the uterus is edematous and presents focal areas of hyperplasia of the stroma, which is also edematous. There is also hypertrophy of the muscular elements of the myometrium. No evidence of tumor implantation or metastasis are seen in the ovaries."

Pathological Diagnosis: Choriocarcinoma of the uterus.

An X-Ray of the chest was negative on May 31, 1949. She went home recovered on June 6, 1949.

Personal communication with the attending physician in this case reveals patient to be in excellent health and steadily employed.

There was no record of biologic tests before or after surgery.

Case 2.

A 36 year old Grav iii was admitted to Memorial Hospital on 8-10-49 with a working diagnosis of bleeding submucous fibroid.

History revealed no previous surgery. Menses were irregular in past few months with passage of clots at every other period. She had 3 children ages 19, 16 and 12, and her last known pregnancy terminated in a 3 months spontaneous abortion 6 years ago. There was no suspicion of pregnancy at this admission. There was profuse bleeding on admission with clots which began 4 days previously. She was given ergotrate with no response.

Abdomen revealed a firm hard nodular uterus freely movable above the symphysis. No pelvic examination was done because of the danger of infection. Bleeding was severe and patient was in impending shock. She was treated by intrauterine packing to control hemorrhage. A consultant diagnosed a bleeding uterine tumor and hysterectomy was advised as soon as patient's condition permitted. She was given transfusions, Vitamin K and antibiotics prophylactically. A supracervical hysterectomy was performed on 8-13-49. Pathologic report as follows:

"Specimen comprises a uterus removed by supracervical hysterectomy. It presents a large dark greyish-brown polyp structure which is pear shaped. This measures 4½ cm. by 3 cm. in width at region of base. Myometrium is 2 cm. in width and is fibrous in appearance. Endometrium thin and pinkish gray in color. Cut surface of the polyp is reddish gray in color and somewhat fibromuscular in appearance. Near the tip it is deep red in color and hemorrhagic in appearance.

Sections through the uterine wall present a characteristic picture of irregular shaped columns of trophoblastic cells invading the fibromuscular stroma of the uterus. Mitotic figures and large hyperchromatic cells with heavily stained nuclei are noted. Hemorrhage and coagulation necrosis of the tissue is also found. Degenerating chorionic villi are also noted in

some of the sections. Pathological Diagnosis—Chorionepithelioma.”

An X-Ray of the chest on 8-20-49, 1 week post-operative, was negative and the patient was discharged as improved on that day. A note by the attending surgeon indicated the patient would be followed with A.Z. tests.

On September 30, 1949, 6 weeks post-operative, she reentered the hospital for a surgical conization of the cervix. An A. Z. test at this time was negative.

This patient has been seen and followed by her original attending surgeon and he reports that she is in excellent health maintaining adequate weight and is employed as a saleswoman.

She had no post-operative X-Ray therapy and there were no other biologic pregnancy tests taken other than the single test reported above.

Although it is probably still too early to prognosticate the eventual outcome of this patient, it is indeed surprising that a simple supracervical hysterectomy with conization of the cervix has effected a 3 year cure. The omission of radiation therapy and the preservation of the adnexae and the shell of cervix would seem to be the only deterrent to a more enthusiastic outlook.

The significance of the pregnancy 6 years preceding the development or detection of this chorionepithelioma or its origin from a more recent pregnancy will probably remain unsolved. The absence of any definite decidua or decidual reaction in the specimen as reported would seem to lend more importance to the antecedent pregnancy 6 years ago. This would then represent a fairly long interval between pregnancy and chorionepithelioma in the series. The preceding pregnancy, terminating in a 3 months spontaneous abortion, had not been followed by a curettage, and the significance of the omission of this procedure with respect to subsequent chorionepithelioma is, of course, speculative.

SUMMARY AND CONCLUSIONS

1. The occurrence of signs and symptoms of spontaneous abortion during the fourth and fifth month of pregnancy should lead one to suspect the possibility of hydatid mole, as it appears that the average spontaneous abortion of mole occurs at a later date in pregnancy than that of the average non-molar abortion.

2. One should not fail to consider hydatid mole simply because the uterus is not larger than the corresponding period of amenorrhea

would indicate, as in 63% of the cases in this series, the uterus was smaller or of corresponding size. Due to possible molar degeneration, the longer the duration of pregnancy, the smaller does the uterus appear to be in size for the corresponding period of amenorrhea, just as one would expect to see in a missed abortion.

3. The frequency of repeated hospital admissions and persistent bleeding before a definite diagnosis is made attests to the difficulties encountered in this regard. It seems paradoxical that such intensive efforts in the use of expensive biologicals, sedatives, use of hospital beds and loss of time from gainful occupation etc., should be made in order to salvage a possible abnormal pregnancy or a molar pregnancy with malignant potentialities.

4. The occurrence of toxemic manifestations during the early months of pregnancy might serve as an indicator that an abnormal pregnancy or mole exists.

5. Dilatation and curettage immediately following expulsion or removal of a mole leads to a more satisfactory recovery with a lower incidence of recurrent vaginal bleeding.

6. It seems that more cases of spontaneous abortion, especially where a definite fetus and secundines have not been identified, should be followed by thorough curettage, for in so doing, cases of hydatid mole, not clinically evident, could be uncovered and the patients treated and followed accordingly.

7. Persistent bleeding following molar expulsion or evacuation calls for extreme caution and diligent search for the possibility of chorionepithelioma. Greater reliance should be placed on the biological pregnancy tests, especially as to gradually increasing titer, with correlation of history and clinical findings.

8. Lutein cysts are benign tumors and should be retained whenever possible, except perhaps when performing total hysterectomy for chorionepithelioma.

9. Abdominal hysterotomy appears to be the best approach in the patient with mole at age 35 or beyond. This should be accompanied by hysterectomy depending on associated factors.

10. A biologic pregnancy test is extremely important as a follow-up of mole and should be repeated at monthly intervals for at least one year after the first negative test. A positive test within 3 months following molar evacuation is not significant unless the titer is extremely high and appears to be rising as determined

by repeated testing. A "persistent positive" biologic pregnancy test is misleading, unless accompanied by clinical symptoms and increasing titer, and should not be considered indicative of chorionepithelioma.

11. There seems to be a definite lack of reliance on the value of the biologic pregnancy test, both in attempts to establish the diagnosis in suspected cases of mole as well as in the follow-up, and it appears that a greater utilization of this test would reveal the diagnosis at an earlier date and thus forestall unnecessary and futile attempts to control pre-abortion bleeding, as well as to uncover hidden post-molar chorionepithelioma before bleeding takes place or

in cases where the lesion might be missed by the curette.

12. A course of deep X-Ray therapy seems advisable following extirpative surgery for chorionepithelioma and biologic tests at monthly intervals would appear to be in the best interest of the patient.

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PHYSICAL MEDICINE AND REHABILITATION

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PHYSICAL Medicine and Rehabilitation is the newest recognized field of specialization in medicine. The purpose of this paper is to describe the background of this specialty, and to familiarize the physician with the purpose and necessity of this new field.

Although physical agents in the form of heliotherapy, massage, and hydrotherapy have been used practically since the dawn of mankind, many centuries passed before physicians became sufficiently interested in the use of physical agents in the treatment of disease. At the turn of the last century and throughout the period of the First and Second World Wars, an increasing interest developed in the use of physical agents and physical therapy for the rehabilitation of the handicapped. During this time a number of physicians gravitated to Physical Medicine and Rehabilitation to the extent of confining their practices totally to this specialty. To these men we owe a debt of gratitude for their assistance and organization of the American Board of Physical Medicine and Rehabilitation.

Although in 1936 it was first proposed that a board of Physical Medicine should be established, it was not until January, 1947 that an organization plan was submitted, and approved by the Advisory Board of Medical Specialties. At the onset, the American Board of Physical Medicine was an affiliate board functioning under the direction of the Committee on Standards and Examinations of the Advisory Board for Medical Specialties. Two years later it became an

independent board with full representation in the Advisory Board for Medical Specialties. In September of 1947 the American Board of Physical Medicine held its first examinations. In June of 1949 the American Board of Physical Medicine became the American Board of Physical Medicine and Rehabilitation upon the approval of the Advisory Board for Medical Specialties.

The purposes of the Board are:

1. "To elevate the standard of Physical Medicine and Rehabilitation, to familiarize the public with its aims, and ideals, to protect the public against irresponsible and unqualified practitioners, to receive applications for examinations in Physical Medicine and Rehabilitation, and to perform such duties as will advance the specialty of Physical Medicine and Rehabilitation.
2. To determine the competence of specialists in Physical Medicine and Rehabilitation and to arrange, control and conduct investigations and examinations, to test qualifications of voluntary candidates for certificates to be issued by the corporation as set forth by the constitution and by-laws.
3. To serve the public, physicians, hospitals, and medical schools, by preparing and furnishing lists of practitioners who shall have been certified by the corporation."

To aid in accomplishing these aims, three year residency training programs were organized at well-established medical centers throughout the

United States. These residencies were designed to give the physician a well-grounded knowledge in the basic sciences as related to Physical Medicine and Rehabilitation. These include anatomy, physics, physiology, and pathology as related to this specialty. In addition to this, of course, the training in Physical Medicine and Rehabilitation includes the clinical aspects of Physical Medicine and Rehabilitation. The diseases and conditions that come within this specialty are the arthritides, various rheumatic diseases, neuro-musculo-skeletal diseases, and a large group of traumatic and orthopedic conditions. Training in the clinical use of such physical agents as heat, ultrasonics, water, electricity, ultra-violet radiation, massage, and exercise in relation to the fore-mentioned diseases is an integral part of the residency training program. Training in the use of and co-ordination of services of such personnel as the physical therapist, occupational therapist, clinical psychologist, social service worker, vocational guidance worker, etc., as well as training in prescribing in detail, the specific therapy required for the individual case is a necessary part of the residency program.

After the individual has completed the three year residency training program as outlined above at an accepted medical center, he or she is then qualified to take the first part of the Board examinations. The individual then, must have two years of practice in Physical Medicine and Rehabilitation before he is eligible for the second and final portion of the examination. If the individual successfully completes both part one and two of the examination, he is then certified by this Board.

Sociologically and economically the need for Physical Medicine and Rehabilitation services for the physically handicapped seems obvious. Although at times the rehabilitation program for an individual appears to be costly, the successful rehabilitation of such individuals in the long run is economically much less expensive and relieves society of prolonged sociologic and economic problems.

A brief review of the statistics regarding the increased number of physical disabilities will further emphasize the need and necessity for Physical Medicine and Rehabilitation. In the United States, a survey made in 1940 of adults

with orthopedic impairments revealed 2,603,000 such cases to exist. The annual increment of such cases has been estimated to be in the neighborhood of 94,440 cases a year. The number of amputees in the United States has been estimated to be 900,000. Of these 400,000 have major amputations, and the annual increment for individuals having major amputations is an estimated 40,000. In addition to this, hundreds of thousands of individuals are added to the roles of the physically disabled by cerebral palsy, poliomyelitis, epilepsy, diseases of the heart and arteries, diabetes, tuberculosis, and a wide variety of traumatic conditions of the nerve, muscle, and bone. It must be remembered in the statistics that have been quoted that the acoustically handicapped, the visually handicapped, and those with speech disorders have not been included. It is obvious from these facts and figures that the need for this medical service is becoming greater and greater with each passing year.

Presently there are four monthly publications available for physicians interested in this field; the Archives of Physical Medicine and Rehabilitation is the official journal of the American Congress of Physical Medicine and Rehabilitation, in addition to this there is the British Journal of Physical Medicine and Industrial Hygiene, The American Journal of Physical Medicine and Rehabilitation, and the Physical Therapy Review. In the past ten years a considerable amount of research in this specialty has been published. In addition to this, numerous medical books on this subject are being published yearly. A yearbook of Physical Medicine and Rehabilitation has been published for several years and the AMA periodically publishes a text on Physical Medicine and Rehabilitation.

SUMMARY: The purpose of this paper is to describe the background of Physical Medicine and Rehabilitation and to familiarize the reader with the purpose and necessity of this new specialty. A brief history of Physical Medicine and Rehabilitation is outlined and some details in regard to the establishment, purposes and aims of the American Board of Physical Medicine and Rehabilitation are given. The statistics regarding the number of cases of physically handicapped individuals are presented to stress the importance and need of this new specialty.

PHYSICAL MEDICINE MANAGEMENT OF THE TUBERCULOSIS THORACIC SURGERY PATIENT*

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IN THE past several years tremendous strides have been made for the treatment of the ravaging disease, pulmonary tuberculosis. Therefore, keeping pace with this successful advancement it has become the problem of the physiatrist to assist the post-operative tuberculous chest patient in his total rehabilitation.(1) The Physical Medicine Service at this Hospital has become an integral part in the treatment of all tuberculosis patients requiring thoracic surgery. Approximately 8 years ago, a physical treatment program was outlined by the joint Medical, Surgical and Physical Medicine Services.(2) This program has continued with modifications and improvements. Since January, 1947 more than 678 tuberculosis patients received major surgical procedures at Fitzsimons Army Hospital, Denver, Colorado.(3) Over 95% of these patients received Physical Medicine treatment and rehabilitation.

We are aware of the fact that we are dealing with patients with pulmonary tuberculosis and that bed rest is still the accepted management. Therefore all physical treatment is carefully supervised by the physiatrist. At no time are violent exercises instigated which could possibly influence the course of the primary disease. For those patients who undergo thoracic surgery, it is our obligation to aid in the total treatment of the patient by preventing and correcting any postural deviations, muscular imbalance and joint disability. It should be kept in mind that there are potential psychological problems present if the post-surgical patient suffers any permanent physical limitations or postural deformities.

The physical medicine management of patients undergoing thoracic surgery may be divided into two primary surgical procedures:

- (1) Extrapleural thoracoplasty and
- (2) Extirpation measures, including pneumonectomy, lobectomy, wedge and segmental resections.

The resulting tendency for body deformities and mechanical limitations are different; however, it is obvious that the most potential deviations can occur following thoracoplasty. In order to prescribe and direct the management of these patients the physician should be thoroughly acquainted with the surgical procedure, the physiological changes and the altered functional anatomy which occur after the specific thoracic surgical procedure. It is only through careful analysis and understanding of the pathological dynamics that correct preventive and therapeutic measures can be instigated. The following are the precipitating factors leading to anatomic and functional changes as a result of thoracoplasty. (Naturally the more ribs resected the more severe may be the physical residuals).

I. Deviation of the Head and Neck

The patient's head and neck tend to deviate toward the unoperative side following surgery. This becomes a problem immediately after surgery, due to the fact that the scaleni muscles are detached from their insertion on the 1st and 2nd ribs. The normal action of the scaleni muscles is to laterally flex the neck and head. With the temporary functional loss of the affected scaleni the stronger uninvolved scaleni and their synergists exert increased force upon the cervical spine resulting in the deviation of the head and neck to the side opposite surgery. If this condition should persist there will be positional contracture or adaptive shortening of the uninvolved scaleni muscles, thereby making it more difficult to obtain a normal neck alignment. The prevention of the above deformity is two-fold: the patient is instructed to assume an over-corrected position shortly before and after surgery, with the head and neck shifted to the side of surgery. This will prevent the stronger scaleni on the side opposite surgery from increased tone and spasm, and also protect the wounded scaleni and synergists on the side of the surgery until these muscles have attached themselves to surrounding structures.

* Read at The Sixth Annual Symposium on Pulmonary Diseases, 21-25 September, 1953, Fitzsimons Army Hospital, Denver, Colo.

At that time reeducation of the affected scaleni and synergists is initiated progressing to moderate resistive exercises until maximal strength has returned, and cervical neck alignment is normal.

II. Elevation of Shoulder Girdle.

The second mechanical deviation following thoracoplasty is the pronounced elevation and forward rotation of the shoulder on the side of surgery. The precipitating factor again is the surgical alteration in the normal muscle balance of the shoulder girdle. The lower trapezius is incised in surgery. The normal action of this muscle is to act as a depressor of the scapula. Due to its temporary weakened condition the upper trapezius muscle, which is not incised in the surgical procedure, assumes increased tone and therefore tends to elevate the shoulder. The pectoral muscles have a tendency to pull the shoulder anteriorly, due to the temporary weakening of its antagonistic muscles. The patient develops a habit pattern of hiking the shoulder and splinting it as an unconscious means of protecting the shoulder from motion and pain. The prevention of the above deformity should be one of helping the patient to relax the upper trapezius muscle and shoulder girdle and of careful reeducation of the depressors, adductors and rotators of the scapula until the patient has return of coordinated muscle action.

III. Scoliosis

Scoliosis in general may be caused by many conditions; however, the primary factors are alterations in stress and strain applied to the vertebral column. The direct cause of scoliosis in thoracoplasty is a mechanical imbalance of the spine due to the removal of the several ribs, which were an important factor in offering skeletal support to the spine, and the ipsilateral muscle trauma and weakness of the spinal and scapular muscles resulting from surgery(4).

The following muscles are either partially or completely incised, or lose their point of origin or insertion:

- (1) rhomboids
- (2) serratus anterior
- (3) middle and lower trapezius
- (4) scaleni muscles
- (5) latissimus dorsi
- (6) intercostals
- (7) the erectae spinae group

Due to the loss of the delicate interplay of balanced musculature on each side of the spine,

combined with the loss of rib support, there is a definite tendency for early development of a low cervical upper dorsal scoliosis with the convexity to the side of surgery. The rotation of the vertebrae causes the remainder of the thoracic cage to bulge laterally and posteriorly. The more ribs removed, the greater the spinal imbalance created. Compensatory changes are often evident lower in the spinal column, characterized by a laterally prominent and anteriorly rotated pelvis on the contralateral side of surgery. Although the rib skeletal support has been partially sacrificed, the muscle imbalance can be restored which would then minimize the postural spinal deviation. Prior to surgery, the physiatrist and the physical therapist indicate to the patient the postural deviations which may take place. Therefore, the patient assumes the normal postural pattern after surgery until the weakened scapular and spinal muscles have been re-educated to resume functional stability of the spine and the scapula. The mobility of the spine is maintained in an effort to prevent any permanent contracture of the unoperated muscles which have a tendency to contract and stretch the temporarily weakened muscles on the side of surgery. As soon as the traumatized muscles on the side of surgery have healed sufficiently, a careful reeducation program is begun to strengthen and coordinate these muscles back to their normal functional use.

IV. Shoulder Disability

Post-thoracoplasty patients have a tendency to develop shoulder limitations. This is due to:

- (1) the surgical trauma of the shoulder musculature,
- (2) the maintenance of drainage tubes in the chest,
- (3) positioning of the patient during surgery,
- (4) reflex shoulder joint pain,
- (5) occasional trauma to the brachial plexus.

If the patient's gleno-humeral joint motion is not maintained immediately after surgery, a frozen shoulder may develop. Therefore passive and active assistive exercises to the shoulder joint are begun the day following surgery. Normal shoulder action depends upon the coordinated function of the scapular muscles. Therefore, careful analysis of the entire scapula-humeral mechanism is imperative if the patient is to regain complete functional control of the shoulder joint.

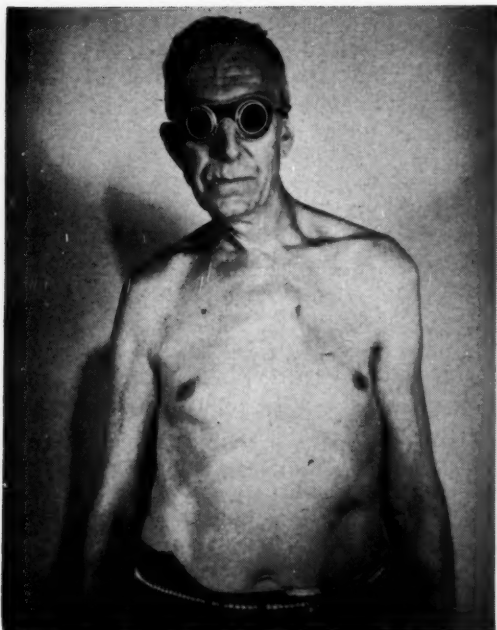


FIGURE 1: Anterior view of patient with 7-rib thoracoplasty, left, who received no physical medicine treatment.

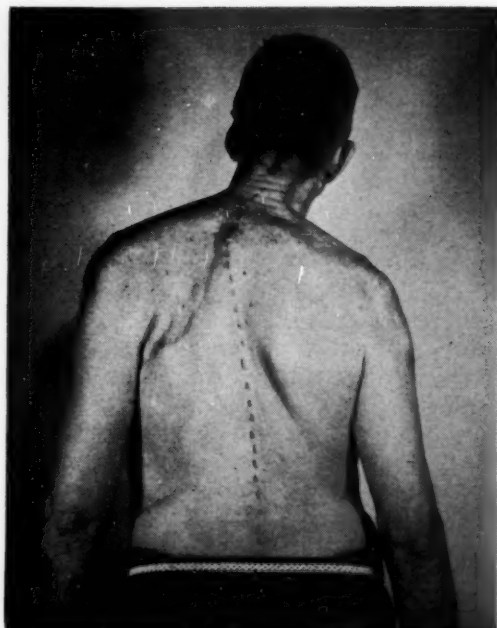


FIGURE 2: Posterior view of same patient who received no treatment.



FIGURE 3: Anterior view of patient with 7-rib thoracoplasty, right, who received physical medicine treatment.

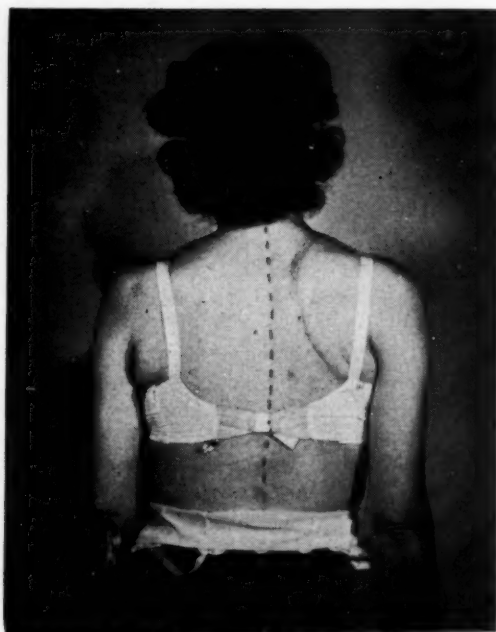


FIGURE 4: Posterior view of same patient who received treatment.

Every patient is an individual problem and a careful analysis of the altered functional anatomy is important in the reeducation and coordination of the shoulder.

EXTIRPATON SURGERY

The problem following extirpation surgery is not as great, although to the patient possible functional mechanical limitations are present.

The normal physiology and functional anatomy is not altered as much as it is in thoracoplasty. There is less trauma to the scapular and spinal musculature and, of course, the main difference is due to the fact that the ribs are not removed. In extirpation surgery where there is a decrease in vital capacity on the side of surgery with resulting inactivity of the affected chest, the patient has a tendency to develop a drooping of the shoulder on the same side as surgery and the head and neck tilt toward the side of surgery. These deviations are just opposite to that which occurs in thoracoplasty. If the patient does not receive preventive treatment he may develop a scoliotic lower cervical upper dorsal curve with the convexity toward the side opposite surgery(5). Again this is opposite to the primary curve which occurs after thoracoplasty. Shoulder mobilization is a problem as it is in thoracoplasty, again due to the sectioning of the scapular musculature, positioning of the shoulder during surgery, and pain in the shoulder joint. Treatment is carried out the same as in throacoplasty with careful reeducation and coordination of the entire shoulder girdle.

SUMMARY

There are four fundamental principles involved in the management of the pulmonary tuberculosis surgical patient. By following these

principles the patient should recover from the surgical procedures with no marked muscular skeletal disabilities and should be quite capable of returning to his occupation with no regrets for having undergone surgery.

- (1) All efforts should be made to protect the weak injured muscles from their stronger antagonists.
- (2) Reeducation and strengthening of the weakened and traumatized muscles should be continued until their functional strength has returned to normal. This is especially important in the coordinated balanced movement of the shoulder girdle.
- (3) Shoulder joint range of motion should be maintained in all planes.
- (4) Develop in the patient a sense of correct posture and normal postural pattern which he can continue on his own after he is dismissed from the care of the physician.

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PHOENIX *Clinical* CLUB

The Case History in this discussion is selected from the Case Records of the Massachusetts General Hospital, and reprinted from the *New England Journal of Medicine*. The discussant under Differential Diagnosis is a member of the staff of the Massachusetts General Hospital. The other discussants are members of the Phoenix Clinical Club.

MASSACHUSETTS GENERAL HOSPITAL

A fifty-nine-year-old man entered the hospital because of unremitting fever.

A patient, who had been well, about five weeks before admission after a bout of sneezing, developed a sharp, steady ache in the right sacroiliac region. Shortly after this he developed pain in the lower lumbar region and three or four days later in the right lower chest; the pain was aggravated by motion, but was not

severe enough to limit his activity. These pains gradually subsided, disappearing entirely after about two weeks. Three weeks before entry he developed a sharp, steady, severe pain in the left precordium that was aggravated by deep breathing or coughing. In addition he began to have repeated bouts of fever, with a maximum temperature of 103°F., followed by slight chills and sweating; these bouts occurred four or five times a day and left him tired and covered with perspiration. He also had a slight dry cough, and gradually increasing anorexia and malaise. His physician treated him for eighteen days, without effect, with penicillin, aureomycin, and a sulfonamide. Four days before admission, he was seen by another physician, and again treatment with penicillin, chloromycetin and terramycin had no effect, chest pain, chills, fever, profuse sweating and a mild

cough productive of small amounts of yellow sputum continuing.

There had been marked anorexia and loss of 20 to 30 pounds in weight since the onset. For a few weeks before admission his voice had been hoarse. There had been no nausea, vomiting, diarrhea, dyspnea, orthopnea, hemoptysis, jaundice, ankle edema, skin lesions, arthritis or past history of serious illnesses. For the twenty-five years prior to entry he had worked as a car painter using lacquers and enamels. He was born in Lithuania and had come to this country at twenty-eight years of age.

Physical examination revealed a cooperative man lying flat in bed in no distress. There was slight muscular weakness of the laryngeal muscles but no other abnormality of the mouth, nose or throat. The neck veins were flat. The chest was slightly emphysematous. It showed normal respiratory excursions and was resonant throughout; there were a few moist rales at the left base. The heart sounds were normal, and no murmurs were present. There was no peripheral edema. Abdominal, neurologic and rectal examinations were negative.

The temperature was 102.4°F., the pulse 80, and the respirations 20. The blood pressure was 140 systolic, 80 diastolic.

The urine had a specific gravity of 1.017 and gave a one plus reaction for albumin; the sediment contained 0 to 1 red cells and an occasional hyaline cast per high-power field. Examination of the blood showed a hemoglobin of 11.2 gm. per 100 cc. and white cell count of 16,900, with 39 per cent neutrophils, 30 per cent lymphocytes, 18 per cent atypical lymphocytes, 7 per cent band forms, 4 per cent monocytes and 2 per cent eosinophils. The serum sodium was 130 milliequiv., the chloride 96 milliequiv., and the potassium 4.5 milliequiv., per liter; the serum calcium was 9.3 mg., the phosphorus 4.3 mg., the alkaline phosphatase 8.7 units, the fasting blood sugar 121 mg., the nonprotein nitrogen 48 mg., the total protein 10.7 gm., the albumin 1.85 gm., and the globulin 8.85 gm. per 100 cc. A bromsulfalein test showed 19 per cent retention of the dye, cephalin flocculation was one plus in twenty-four and forty-eight hours, and the prothrombin time was 15 seconds (normal, 13 seconds). Numerous blood cultures showed no growth. Agglutinins for brucella, typhoid and *Proteus* Ox-19 and Ox-2 were negative in all dilutions; those for *Proteus* Ox-K were positive in dilution 1:20,

1:40 and 1:80 and negative in dilution 1:160. A roentgenogram of the chest showed a prominent left ventricle, a tortuous aorta and prominence of the hilar pulmonary vascular shadows; the liver and spleen were of normal size. Films of the pelvis, ribs, skull and upper femurs were not remarkable. An electrocardiogram revealed a normal record. Lumbar puncture demonstrated clear spinal fluid and normal dynamics, cytology and chemistry; culture of the spinal fluid produced no growth. Aspiration smears of the bone marrow of the iliac crest, rib and sternum all showed essentially the same range of cellular distribution; myeloid cells, 52 per cent; normoblasts, 14 per cent; lymphocytes, 14 per cent; large mononuclear cells, probably monocytes, 13 per cent; and 7 per cent cells that were difficult to classify but were most probably either plasma cells or reticulum cells. The maturation in the myeloid series appeared to be normal, and megakaryocytes were present.

The patient's temperature remained between 100 and 101°F., and the physical signs remained unchanged except that marked tenderness was noted over the upper ribs anteriorly. He gradually became stuporous and developed tremors and irregular cogwheel-type movements of the hands and fingers on sustained posture; neurologic examination was not remarkable. On the sixth day the serum calcium phosphorous and phosphatase were as before, the urine gave a negative reaction for albumin (nitric acid ring test). Examination of a blood smear showed normal red cells and platelets, with 1 per cent neutrophilic myelocytes, 7 per cent band forms, 52 per cent segmented cells, 12 per cent lymphocytes, 27 per cent cells probably monocytes and 1 per cent blast forms; the hemoglobin was 10 gm. per 100 cc., and the white cell count 16,200. His course continued steadily downhill, with deepening coma and the temperature rising to 104°F., terminally. He died on the ninth day.

DR. JAMES R. MOORE:

An unremitting fever with a relative bradycardia suggests the possibility of typhoid or related fever. The negative agglutination tests and a moderate leukocytosis are probably sufficient to rule out that condition. The significance of a positive agglutination for *proteus* Ox-K in a dilution of 1 to 80 is not known but probably has no bearing on the real pathology here.

An elderly—I reluctantly but probally cor-

rectly use that term—male of 59 with weakness, marked weight loss, migrating rheumatic pains in back and chest, a moderate anemia, some signs of renal insufficiency, hyperproteinemia, hyperglobulinemia, and inverted a-g ratio arouses that "high index of suspicion" said to be an essential attitude for a successful early recognition of certain conditions having varied and confusing manifestations. The above combination of clinical and laboratory findings may be found in multiple myeloma and call for a careful examination of the bone marrow. In attempting to evaluate the reported bone marrow findings I encountered, in looking up the subject, such a confusing, to me at least, nomenclature that I could not be sure if the cells described represented a significant immaturity of the cellular elements and the presence of the plasma and myeloma cells necessary to clinch a diagnosis.

The absence of at least two of the most characteristic findings of multiple myeloma in this case; namely, x-ray evidence of osteolytic lesions and presence of Bence-Jones protein in the urine, is disturbing but does not rule out the diagnosis. Bence-Jones protein may be found constantly or intermittently, but in from 35 to 40% of the cases is absent. With only two reported urine examinations in this case, its presence could have been missed. Limarzi has reported several cases of proven multiple myeloma in which there were no x-ray evidences whatever of bone lesions. It is apparent, therefore, that absence of such lesions does not rule out the diagnosis. It is possible that in the past many cases of multiple myeloma, especially in the earlier stages, would not show the so-called cardinal findings and were wrongly diagnosed on the basis of presenting symptoms as rheumatism, sciatica, fever of unknown origin, etc.

Again, there is no significant change in the calcium phosphorus metabolism in this case. In multiple myeloma the serum calcium is often high with normal or slightly elevated phosphorus, but this is more common when osteolytic lesions are prominent and none were demonstrated in our case.

The renal involvement in multiple myeloma is usually of the type found in this case; namely:

1. Albuminuria with few hyaline casts and red cells.

2. Elevated NPN.
3. Normal or low blood pressure.
4. Absence of marked edema or retinitis.

The renal insufficiency in multiple myeloma results from tubular blockage and accompanying renal cortical atrophy.

Differential diagnosis:

1. From an acute infection. This is somewhat difficult with body pains, fever, leucocytosis, chills and sweats so often found in infections. Against a primary infectious process, however, are: 1. The absence of an adequate demonstrated focus of infection. 2. Failure to respond to a number of broad spectrum antibiotics and at least one sulpha drug. 3. Increased white blood count but without polymorphonuclear increase. Fever is a very frequent occurrence in multiple myeloma and cannot always be explained on the basis of pulmonary or other existing infections. Terminal hyperpyrexia is a very frequent occurrence and resembles that found in the terminal state of other malignant conditions.

2. Pernicious anemia is differentiated by the different blood picture.

3. In this case it would not be confused with hyperparathyroidism as there are no skeletal lesions. When these are present the low phosphorus and high serum calcium in hyperparathyroidism, as contrasted with a normal phosphorus and high calcium in multiple myeloma, should serve to differentiate the two.

4. Metastatic carcinoma to bone is not a problem here as there are no x-ray evidences of bone lesions found. Metastatic carcinoma from the prostate would give an elevated acid phosphatase when from thyroid, stomach, etc., and the absence of hyperproteinemia and especially hyperglobulinemia would be significant.

5. Differentiation from other disturbances of the blood-forming mechanism on the basis of cytological findings in blood and bone marrow is beyond me and will not be attempted.

On the basis of the following combination of symptomatology, clinical and laboratory findings, and in spite of the absence of at least two very important diagnostic findings, I make the diagnosis of multiple myeloma.

1. Migratory bone pain.
2. Weakness.
3. Marked weight loss.
4. Fever.
5. Renal involvement without hypertension or edema.
6. Hyperproteinemia and hyperglobulinemia with inverted a-g ratio.
7. Abnormal blood picture.

8. Abnormal bone marrow, both consistent with a diagnosis of multiple myeloma.

Addenda:

The apparently recent onset, the absence of certain bone changes, the rapid downhill course and early death may be due to the high malignancy of the basic process and severity of the cachexia. The rapidity of the process may explain the absence of some of the bone changes and altered calcium metabolism which apparently develop on a more chronic basis.

Diagnosis: Multiple Myeloma.

DR. LESLIE R. KOBER:

We have here a 59-year-old man who, prior to his present illness, had been perfectly well. He had worked for 25 years as a car painter, using lacquers and enamels, and naturally we wonder if there had been some toxic effect from this over a long period of time. From the onset, which was 5 weeks before admission, there was a continual and progressive downhill course until death finally ended his career on the 9th hospital day. His first episode of pain followed sneeze and occurred in the right sacroiliac region. This progressed several days later to the right lower chest area, which was aggravated by motion, and partly disappeared for a period of 2 weeks. However, there was a recurrence of a steady, severe pain in the left precordium. This again seemed to be related to the pleura, for there was increase on deep breathing or cough. At this time he started running repeated bouts of fever with a temperature up to 103° followed by slight chills and sweating. None of the modern day "wonder drugs" seemed to have any effect on his fever, and he continued with loss of weight, slight hoarseness, and fever. Apparently the fever had changed from a relapsing type to an unremitting fever. General physical examination did not give us much help, except for the temperature which was noted to be considerably higher than one would expect for the pulse rate, the latter being 80. His blood pressure being rather normal, 140/180. Clinically he continued with fever, gradually became stuporous, developed tremors and irregular cogwheel type movements, and eventually went into a deep coma and died on the 9th day with a temperature up to 104°.

From the clinical record we have unrelenting, gradually increasing symptoms, and a downhill course which seemed to start in the area of the lower dorsal spine, involve the pleura, and eventually progress to involvement of the cen-

tral nervous system and base of the brain. From the history and physical findings it seems impossible to make a diagnosis other than some widespread gradually progressing process, probably granulomatous or malignant in nature, which produced death by way of involvement of the basal cerebral structures.

Let us revert to the laboratory findings. These are of two types. First, the blood examinations, both cellular and chemical, and then the bone marrow studies. Blood cultures, lumbar puncture, examination of the cerebro-spinal fluid, and x-ray examination give only negative diagnostic information. Our first diagnostic clue would seem to come from the white blood count of 16,900, with 18% atypical lymphocytes. Do we have a leukemia of the lymphocytic group? Probably not.

The blood chemistry is not significantly abnormal until we come to the protein, where we find an increased total protein of 10.7, and a decreased albumin of 1.85, and the globulin increased to 8.85 gm. per 100 cc. These findings bring forth the possibility of multiple myeloma, or sarcoidosis. Other possibilities are carcinoma, tuberculosis, leprosy, Kala-azar, and schistosomiasis.

We also find that there was a 19% retention of dye from the liver function test using brom-sulfalein, and the cephalin flocculation test was only one plus in both the 24 and 48 hour tests, which is not considered to be definitely positive. All of the agglutination tests are considered to be non-diagnostic or entirely negative. Later we find that the blood smears were showing further changes with 7% band forms, 52% segmented cells and 12% lymphocytes, but 27% cells which were called probably monocytes. Is this monocytic leukemia? Again, probably not. The hemoglobin had been reduced to 10 gms. The white count remained at the 16,200 level, and we continue to find the alkaline phosphatase somewhat elevated, the original having been reported 8.7 units. This however in the presence of liver disease is not too helpful. However, since alkaline phosphatase is usually considered an important finding let's dwell on this one test for a few minutes.

To quote from an article by Arthur Grollman (Oxford Medicine, Vol. IV, page 415).

"The enzyme phosphatase plays an important role in the deposition of bone, and the determination of its concentration in the blood plasma aids in differential diagnosis of bone diseases

when considered in conjunction with other biochemical analyses."

"The phosphatase present in normal blood serum is almost entirely of the variety active in alkaline media and is identical with that found in bone. Its concentration in blood reflects the content of the enzyme in the bones and the severity of several bone diseases may be correlated roughly with the enzyme content of the blood. An increased concentration of serum phosphatase occurs especially in such bone diseases as are attended by the formation of abnormal bone, as in Paget's disease, or of osteoid tissue, as in rickets. Mere bone destruction, however, is not associated particularly with an increase in the concentration of the enzyme.

"Obstruction of the biliary system produces a retention of phosphatase in the blood. This fact may be utilized in the differentiation of hemolytic jaundice, in which the phosphatase is unaffected, from the obstructive variety. However, it also vitiates the significance of phosphatase determinations in bone diseases in the presence of hepatic disease.

"An increased alkaline phosphatase of the blood is noted also in tuberculosis of the bone, during the last trimester of pregnancy, in Hodgkin's disease following invasion of bone, and in Boeck's sarcoid."

However, according to Bodansky and Joffe and others, the serum phosphatase is rarely if ever elevated in multiple myeloma.

From the foregoing statements, we are now faced with the question of whether or not an alkaline phosphatase which is increased to 8.7 units indicates bone disease or merely is a retention due to obstruction in the biliary system. In view of the 19% retention of bromsulfalein it seems quite likely that we have liver damage, and the alkaline phosphatase elevation is one of the results of this damage.

Previously we noted an increase in total serum protein, with low albumin and high globulin.

X-ray examination of skull, pelvis, ribs, and upper femurs was not remarkable, which again leads one to believe the increased protein did not mean multiple myeloma. The finding of plasma cells up to 7% in the bone marrow however makes one wonder if a careful study for so-called multiple myeloma cells would enable a tentative diagnosis, even in the absence of definite bone lesions.

Likewise other bone tumors such as sarcoma or endothelioma should have shown up on

x-ray.

Acute myelogenous or lymphatic leukemia is ruled out by the absence of immature forms in the bone marrow studies. However, the course, with rapid (7 weeks) progression to death; persistent fever, leucytosis including band forms, monocytes, and blast forms, reduction of hemoglobin, and a bone marrow showing 13% monocytes and 7% plasma or reticulum cells must be classed as an atypical acute leukemia. There are acute blast, lympho-sarcoma cell, agnogenic, monocytic, chloroma, and plasma cell leukemias to consider.

If one is to call this leukemia, it seems to me it would fall in that group called plasma cell multiple myeloma or plasmacytoma where plasma cells appear, but where no myelomata are evident in the bones. The history of working with lacquers and enamel might favor a toxic cause and suggest agnogenic type of leukemia. Lymphosarcoma cell leukemia can only be diagnosed from study of the microscopic sections of marrow.

The terminal fever, marked tenderness over the upper ribs anteriorly, gradual stupor and deepening coma fit a diagnosis of leukemia. Hemorrhage in the base of brain as a possible end result, or even leukemic infiltration, seems likely.

Hodgkin's disease or lymphoblastoma might be considered, with the prominence of the hilar pulmonary vascular shadows on x-ray indicative of mediastinal gland enlargement, if such is the diagnosis.

Another possibility might be disseminated carcinoma of the bone marrow with metastases to the brain, or let's just say carcinoma with metastases, to be on the safe side.

I toyed for a long time on the diagnosis of sarcoidosis, and before ending I would like to elucidate this possibility further. By definition, sarcoidosis is a chronic, relapsing infection of the reticuloendothelial system, usually benign but widely distributed throughout the body, affecting particularly the lymph nodes, lung, spleen, skin, bone marrow and liver and characterized by epithelioid cells arranged in tubercle like formations.

The disease has been known to extend into the brain and according to Roos infiltrations at the base of the brain form one of the commonest sites for cerebral lesions.

The liver also is quite a frequent seat of the disease. This is not detected in a great many

patients during life, but functional tests have shown liver damage in some cases and elevation of alkaline phosphatase is known to occur, probably due to liver involvement.

Considering the widespread dissemination of the lesions in generalized sarcoidosis, the sparsity of constitutional symptoms and bodily reactions are most striking. This is particularly surprising when one compares this disease with other forms of granuloma such as Hodgkin's disease, syphilis, and tuberculosis. Fever is likely to occur in the early stages or in the later stages especially when the lungs are extensively invaded.

Anemia is not a feature of the disease and the leucocyte count usually is within normal limits, but frequently there is an increase in monocytes and a moderate eosinophilia.

Elevation of the serum proteins is likely to take place during the progressive phases. These abnormal increases are due to elevation in the globulin fraction.

Great difficulty arises in the diagnosis of sarcoidosis when the abdominal organs are affected without swelling of the superficial lymph nodes, skin eruptions or skeletal changes.

TO SUMMARIZE:

- (1) Clinical Course—indicative of unalterably progressive process to death within 8 wks., despite all modern medical science.
- (2) Fever — unresponsive to anti-biotics and unexplainable on basis of infection in blood culture, spinal fluid, or lungs on x-ray.
- (3) Hyperprotenemia—with reduction of albumen and increased globulin.
- (4) Increased alkaline phosphatase.
- (5) 19% retention of bromsulfalein.
- (6) Moderate leucocytosis with at first 18% atypical lymphocytes, and later 27% probably monocytes and 1% blast forms.
- (7) Bone marrow studies revealing 13% large mononuclear cells, probably monocytes, and 7% probably plasma or reticulum cells.
- (8) Terminally—marked tenderness over the upper ribs anteriorly, gradually increasing stupor and coma with tremors and cog-wheel-type movements of hands and fingers on sustained posture.

The implication from most of these findings is a rapidly progressive disease such as leukemia, but also myeloma, or sarcoidosis, where infiltration of the bone marrow, probably liver, and base of the brain occur and death occurs fol-

lowing deepening coma.

I suppose it would be possible for this to be a primary brain tumor and we have been misled by all the fuss over blood examinations, chemistry, and bone marrow studies.

Also hypernephroma must always be considered in obscure cases such as this. However on the evidence presented and relying heavily on the finding of plasma cells in the bone marrow I am going to stick with a diagnosis of plasma cell leukemia.

DIAGNOSIS:

1. Plasmacytoma (Plasma cell leukemia: multiple myeloma)
2. Sarcoidosis
3. Carcinoma with metastases

DIFFERENTIAL DIAGNOSIS:

Dr. William H. Baker: I wonder if I may see the x-ray films?

Dr. Joseph Hanelin: I have nothing to add to the findings in the films as noted in the protocol. The bones appear normal; the skull is not remarkable. The heart is somewhat enlarged in the region of the left ventricle, and vascular markings are slightly prominent. No obvious parenchymal lesion is evident.

Dr. Baker: Were there any films of the spine?

Dr. Hanelin: No.

Dr. Baker: What about the humeri?

Dr. Hanelin: What I see of them appears normal.

Dr. Baker: In summary, this patient had six-week course of what I interpret to have been bone pain, weight loss, anorexia, malaise, fever, anemia, marked hyperproteinemia and marked hyperglobulinemia. On the basis of this rapid fulminating course and the hyperproteinemia, I have but one recourse—to make a diagnosis of multiple myeloma.

Unremitting fever has not been noted to be a prominent characteristic of multiple myeloma but in a recent article Adams et al. showed that 52 per cent of their patients had fever. In the older German literature there have been cases of multiple myeloma of a fulminating character associated with a high degree of fever. The type of fever, with bouts of temperature up to 103°F., associated with marked sweating, is commonly associated with Hodgkin's disease, carcinomatosis, miliary tuberculosis and other diseases that had been looked for by serologic tests in this case.

The bone pain was consistent with a lesion involving the bones diffusely. That it was first

Amebiasis¹ a "Poorly Reported" Disease

Until serious complications arise, amebiasis may pass unrecognized and patients receive only symptomatic treatment.

Although amebiasis is a disease with serious morbidity and mortality, statistics on its incidence¹ are incomplete because its manifestations are not commonly recognized and consequently not reported.

"Vague symptoms² referable to the gastrointestinal tract, such as indigestion or indefinite abdominal pains, with or without abnormally formed stools, may result from intestinal amebiasis. Not infrequently in cases in which such symptoms are ascribed to psychoneurosis after extensive x-ray studies have been carried out, complete relief is obtained with antiamebic therapy."

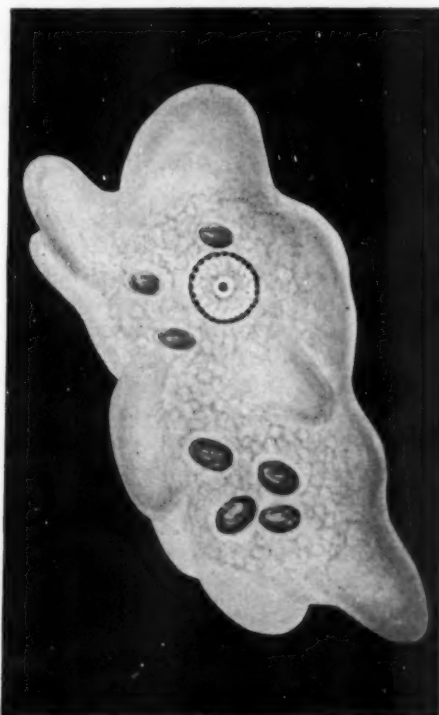
To prevent possible development of an incapacitating or even fatal illness and to eliminate a reservoir of infection in the community, diagnosing and treating³ even seemingly healthy "carriers" and those having mild symptoms of amebiasis is advised.

Early diagnosis¹ is important because infection can be rapidly and completely cleared, with the proper choice of drugs and due consideration for the principles of therapy. For treatment of the bowel phase these authors find Diodoquin "most satisfactory."

For chronic amebic infections, Goodwin⁴ finds Diodoquin to be one of the best drugs at present available.

Diodoquin, which does not inconvenience the patient or interfere with his normal activities, may be used in the treatment of acute or latent forms of amebiasis. If extraintestinal lesions require the use of emetine, Diodoquin may be administered concurrently. It is a well tolerated and relatively nontoxic orally administered amebicide, containing 63.9 per cent of iodine.

Diodoquin (diiodohydroxyquinoline), available in 10-grain (650 mg.) tablets, reduces the course of treatment to twenty days (three tablets daily). Treatment may be repeated or prolonged without



Endamoeba histolytica (trophozoite).

serious toxic effect. It is accepted by the Council on Pharmacy and Chemistry of the American Medical Association. G. D. Searle & Co., Research in the Service of Medicine.

1. Hamilton, H. E., and Zavala, D. C.: Amebiasis in Iowa: Diagnosis and Treatment, *J. Iowa M. Soc.* 42:1 (Jan.) 1952.

2. Goldman, M. J.: Less Commonly Recognized Clinical Features of Amebiasis, *California Med.* 76:266 (April) 1952.

3. Weingarten, M., and Herzig, W. F.: The Clinical Manifestations of Chronic Amebiasis, *Rev. Gastroenterol.* 20:667 (Sept.) 1953.

4. Goodwin, L. G.: Review Article: The Chemotherapy of Tropical Disease: Part I. Protozoal Infections, *J. Pharm. & Pharmacol.* 4:153 (March) 1952.

experienced after a bout of sneezing is characteristic of destructive lesions of bone due either to a malignant lesion or to some other process. The transitory nature of the bone pain is characteristic of multiple myeloma. He experienced pain in at least two sites in the ribs. I do not know whether a friction rub was heard at the time he had the pain in the left precordium but I assume it was not.

The fact that the patient was treated by numerous antibiotics is interesting. In the past year there have been two cases of patients who received large amounts of sulfonamide and thereupon developed a plasmacytosis of the bone marrow and of the liver, and interstitial nephritis following the sulfonamide therapy. Both patients also had hyperglobulinemia. Although I do not think the sulfonamides had anything to do with this patient's course it is interesting to speculate about a possible relation.

The weight loss is consistent with a diffuse process, especially a diffuse process of neoplastic cells.

The patient was a car painter who used lacquers and enamels. It is well known that benzol (benzene) will produce lymphoma in animals but there is no clear-cut relation in the production of human tumors. Benzol was probably used in the past, but my chemist friends tell me benzol is not used in car paint now.

The patient was born in Lithuania, so the Service thought of Brill's disease or typhus occurring as a recrudescence in an immigrant to this country. That was ruled out by the negative Proteus agglutinations for OX-19 and OX-2, which should have been positive if the patient had Brill's disease.

I am at a loss to explain the hoarseness and the weakness of the laryngeal muscles. It is true that extravisceral myelomatosis most commonly involves the upper respiratory tract, and it is possible that this man had myelomatous involvement of either the vocal cord or the laryngeal muscles. Another possibility, if the diagnosis is correct is amyloid infiltration of the laryngeal muscles. In the myeloma the amyloid depositions characteristically involve rather unusual sites. Indeed Lichtenstein and Jaffe say that whenever amyloid is found in rather unusual sites, the possibility of myeloma should be seriously considered.

Regarding the negative mouth, nose and throat examination, in their recent article, Adams et al. pointed out that 98 per cent of their

61 patients had either an extremely carious condition of the teeth or complete edentia. Since all these patients are in the older age group, I am not sure it means much.

Next, I should like to comment on the laboratory data. The slight azotemia that this patient had is probably quite consistent with involvement of the kidneys. The fact that the blood pressure was not elevated is quite characteristic; myeloma kidneys produce uremia but usually no elevation in the blood pressure. The anemia is quite consistent with any neoplastic disease, with miliary tuberculosis and with any of the other conditions that may produce a hyperglobulinemia. The elevated white cell count is usually found with multiple myeloma. The differential counts on the blood I am at a loss to interpret. I assume the 18 per cent atypical lymphocytes found on admission and the 27 per cent cells called "probable monocytes" noted on the sixth hospital day were probably myeloma cells. There was no mention of rouleau formation; it occurs in about two-thirds of the patients with myeloma and may be of some help in establishing a diagnosis. The low serum sodium I interpret as the result of the diaphoresis associated with the fever and poor nutritional state of the patient. The serum potassium and calcium were normal. The calcium is supposed to be elevated in the majority of cases of multiple myeloma, but in perusing the literature I found no evidence of correlation of the serum calcium values with the degree of hyperproteinemia. The phosphorus was normal. In the early literature an elevated alkaline phosphatase has not been alluded to, but in a recent series 48 per cent of patients with multiple myeloma had an elevated alkaline phosphatase. The reason for this is not known. The bone lesions in multiple myeloma are osteolytic, usually without evidence of bone proliferation so that the cause of the elevated alkaline phosphatase remains obscure. The total protein of 10.7 gm., with such a high globulin fraction associated with the other symptoms, means to me that the patient had myeloma.

The bone marrow was abnormal in that there was an increase in the number of plasma cells. The normal range of plasma cells varies from author to author, but most physicians are in agreement that plasma cells should not exceed 2 per cent; certainly, the figure of 7 per cent of these cells that were interpreted as possible plasma cells is definitely abnormal. I

suppose if myeloma was the diagnosis the cells that were interpreted as monocytes were probably the so-called myeloma cells — the cells that we call proplasmacytes, but Wintrobe and other hematologist call myeloma cells. They are large cells with no nucleoli and do resemble monocytes.

Regarding the absence of proteinuria, it is generally recorded in the literature that the higher the protein in the serum, the less likely is Bence-Jones protein in the urine. We do not fully agree with that because in the patients we have studied over the past years who have not had Bence-Jones protein demonstrated by laboratory tests, we have been able to demonstrate Bence-Jones protein by using Dr. Jacobson's technic. I think the great variance of the percentage of patients with myeloma who have or have not Bence-Jones protein is correlated directly with the industry of the persons assigned to look for the Bence-Jones protein. I do not say that Bence-Jones protein occurs in all patients, but I do think it will be found in a high percentage of patients if adequately looked for. It has been postulated that Bence-Jones protein does not occur in patients with hyperproteinemia because it is a protein of a low molecular weight, between 25,000 and 30,000, and forms a complex with the abnormal proteins in the circulating blood; thus, it is unable to pass through the glomeruli. Whether or not that condition existed here, I do not know. Albumin was demonstrated originally, but later the urine was negative by the nitric acid ring test. If this test is done in a careful manner with a wine glass and filter paper it is an accurate test. The nitric acid should be poured into the wine glass; the urine is poured through the filter paper, whose tip must be touching the nitric acid, and then a good interphase is demonstrated. No good interphase is demonstrated when nitric acid and urine are poured into a glass together in the usual method.

Other conditions that could cause these symptoms with hyperglobulinemia are as follows: lymphopathia venereum, which I will not even discuss; sarcoidosis, but if it had been present, I should have expected to see lesions in the chest film; cirrhosis of the liver, for which the only evidence was a slight retention of bromsulfalein; kala-azar, for which there was no evidence; and disseminated lupus erythematosus, which is a possibility. A severe anemia associated with a diffuse symptomatology could

be due to disseminated lupus erythematosus. No lupus erythematosus cells were demonstrated, and none were shown in the marrow. The absence of leukopenia and the sex of this patient tend to rule out disseminated lupus erythematosus. Subacute bacterial endocarditis is another offender in causing a rise in globulin. No blood cultures were taken, and there were no cardiac murmurs and no evidence of the thromboembolic phenomena; therefore, I am unable to make that diagnosis. Tuberculosis is a distinct possibility, the usual type of tuberculosis that produces a high globulin being tuberculous lymphadenitis; in the series of 65 patients with miliary tuberculosis at the Boston City Hospital reported by Chapman and Whorton no mention is made of an elevated globulin. Miliary tuberculosis is a hard diagnosis to make clinically; the diagnosis in 75 per cent of the patients at the Boston City Hospital was missed prior to autopsy.

The terminal course is interesting in that the patient went into coma. I think in the small series of patients that we have treated with steroids, 3 went into coma terminally, and all 3 showed no evidence of cerebral damage to account for the coma. Coma in myeloma is a very interesting situation. It can be caused by three conditions either an extradural tumor or dural infiltration, hemorrhage, or no demonstrable abnormality. Dr. Raymond D. Adams says he has never seen a case in which myeloma involved the brain itself. My final diagnosis is multiple myeloma probably involving the ribs, pelvis and liver, possibly myeloma kidney and questionable amyloid disease of the larynx or plasmacell infiltration or both.

Dr. Thomas Paine: Every once in a while a patient with myeloma ends up with a fungous infection. Have you experienced that yourself?

Dr. Baker: One of the patients I have seen had lymphatic leukemia with torula present in the spinal fluid, without meningitis and in the urine and in the blood. We have had two other cases of torula in the spinal fluid associated with Hodgkin's disease.

Dr. Alfred Krane: I was visiting on the Service when this patient was on the wards. The prominent feature on admission was lethargy or stupor of a degree not adequately brought out in the protocol. During the nine days on the ward he was quite stuporous; the last three or four days he was completely comatose, and that was the reason for the lumbar

puncture that many of you may have been wondering about. The history of fever and pain were of longer duration than was brought out in the record. This was essentially a problem of long standing obscure fever. It was our opinion after following the patient for a day or two that the most likely diagnosis was some form of malignant lesion, because most fevers that go on for some time and do not respond to adequate doses of antibiotics turn out to be due to a malignant process. Although there are many exceptions, that is a good rough rule. We asked Dr. Jacobson several times to identify the obscure cells, hoping he would tell us they were plasma cells, but he was never very co-operative. We also did numerous bone-marrow aspirations. We were very puzzled. When the result of the serum protein determination was reported two or three days before death, the diagnosis seemed much clearer to us, although even then a number of people were unwilling to except the diagnosis of multiple myeloma.

Dr. Bernard M. Jacobson: I want to agree with Dr. Kranes, but I was not as impressed with the diagnostic significance of the high globulin as he was. To me, in a patient with fever of unknown origin, with reticulum cells in the peripheral blood and the peculiar cells in the marrow that I could not recognize as being diagnostic of myeloma, the course and history were consistent with the diagnosis of lymphomatous involvement of the bone marrow. We know that plasmacytosis of the marrow occurs in some cases of reticulum-cell sarcoma and rarely in some chronic infections. We have never seen among our 100 cases of myeloma a phosphatase this high; the highest was 6.5 units. There are some cases of lymphoma with high serum globulin.

Dr. Baker: Were any of this group patients who received cortisone? In 2 of our 6 cases an elevated alkaline phosphatase was present during steroid therapy.

Dr. Benjamin Castleman: Does the use of steroids raise the alkaline phosphatase?

Dr. Baker: I would not say it was due to steroids. We have depressed the alkaline phosphatase in Paget's disease by the administration of cortisone.

In the cases that Adams reported 48 per cent had an elevated alkaline phosphatase.

Dr. Kranes: I do not recall a single case of multiple myeloma in which there was a high

phosphatase. For a while we used that as a differential point.

CLINICAL DIAGNOSIS:

Multiple myeloma.

DR. BAKER'S DIAGNOSIS:

Multiple myeloma.

ANATOMICAL DIAGNOSIS:

Multiple myeloma.

PATHOLOGICAL DISCUSSION:

Dr. Castleman: The only positive finding at autopsy was in the bone marrow, which showed a diffuse infiltration with plasma cells. There were no localized osteolytic lesions—the more common type of myeloma—but uniform diffuse involvement—the rarer form. This type is often difficult to detect roentgenologically, since there is no contrast. On the other hand, it should be easy to detect from a bone-marrow aspiration or biopsy. There was a good deal of pulmonary edema. The kidneys did not show any of the myeloma casts, and there was no evidence of amyloid anywhere.

Dr. Kranes: The reason for his stupor was always obscure, even after we strongly suspected that the patient had myeloma. We were asked to explain why he was so stuporous and why he was twitching.

Dr. Castleman: We have not found anything grossly in the brain, and the microscopical sections of the brain are not through yet. There was no evidence of extrasosseous myelomatous infiltration of the dura.



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1. Gurdjian, E. S., and Webster, J. E., *Amer. J. of Surgery*, 63:236, 1944.

THE *President's* PAGE

THE 1954 SESSION OF THE ARIZONA MEDICAL ASSOCIATION HELD AT CHANDLER, ARIZONA VARIED FROM RECENT MEETINGS OF THE ASSOCIATION IN THAT THE LOCATION WAS A RESORT HOTEL AND THAT THE MAJOR PORTION OF THE PROGRAM WAS OF A SEMINAR OR PANEL TYPE. THE IMMEDIATE RESPONSE OF THE MEMBERS OF THE ASSOCIATION WOULD INDICATE THAT THE CHOICE OF THE SAN MARCOS HOTEL AS A MEETING PLACE MET WITH ALMOST UNIFORM APPROVAL. THE ACCOMMODATIONS WERE THOSE ANTICIPATED IN A WORLD FAMOUS HOTEL AND THE ADJACENT GOLF COURSE AND THE SWIMMING POOL CERTAINLY ADDED TO THE PLEASURE OF ITS GUESTS. IT WOULD BE TOO EARLY TO FINALLY ASSAY THE THOUGHTS OF THE MEMBERS REGARDING THE SEMINAR TYPE OF MEETING BUT WE CAN BE CERTAIN THAT THE CHAIRMAN AND MEMBERS OF THE SCIENTIFIC ASSEMBLY COMMITTEE WILL APPRECIATE THE THOUGHTS OF ASSOCIATION MEMBERS WHEN MAKING UP THE PROGRAM FOR THE MEETING IN TUCSON IN 1955.

THE ATTENDANCE AT THE SESSION WAS 335 WHICH I BELIEVE IS THE LARGEST IN NUMBER AT ANY SESSION HELD SO FAR. IT INDICATES THE GROWING SIZE OF THE ASSOCIATION MEMBERSHIP AND IT WOULD SEEM LOGICAL THAT THE NUMBER WILL INCREASE FROM YEAR TO YEAR AS THE ACTUAL MEMBERSHIP INCREASES. THIS IS IMPORTANT FROM THE POINT OF VIEW OF HOUSING FACILITIES FOR MEMBERS AND GUESTS, THUS INFLUENCING IN THE FUTURE THE LOCATION OF THE MEETING AND THE TIME AS WELL. I BELIEVE A BREAKDOWN OF THE REGISTRATION IS ILLUMINATING AND CHALLENGING.

County Medical Society

Percentage of Members Registered

APACHE	67%
COCHISE	18%
COCONINO	27%
GILA	39%
GRAHAM	50%
GREENLEE	20%
MARICOPA	39%
MOHAVE	50%
NAVAJO	33%
PIMA	20%
PINAL	52%
SANTA CRUZ	37%
YAVAPAI	26%
YUMA	23%

THE QUESTION ARISES AS TO WHETHER WE CAN EXPECT A LARGER PERCENTAGE OF MEMBERS TO ATTEND THE ANNUAL SESSIONS IN THE FUTURE. DID MEMBERS REMAIN ABSENT BY CHOICE OR NECESSITY? IF BY CHOICE IT IS OBVIOUS THAT THE ASSOCIATION MUST MAKE THE SESSION MORE ATTRACTIVE. IT IS YOUR ASSOCIATION, AND YOUR SUGGESTION MAY BE THE ONE TO MAKE IT SO.

OSCAR W. THOENY, M.D.
PRESIDENT, ARIZONA MEDICAL
ASSOCIATION, INC.

Editorial

ARIZONA MEDICINE

Journal of

ARIZONA MEDICAL ASSOCIATION, INC.

VOL. 11 JUNE, 1954 NO. 6

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The Editor sincerely solicits contributions of scientific articles for publication in ARIZONA MEDICINE. All such contributions are greatly appreciated. All will be given equal consideration.

Certain general rules must be followed, however, and the Editor therefore respectfully submits the following suggestions to authors and contributors:

1. Follow the general rules of good English, especially with regard to construction, diction, spelling, and punctuation.
2. Be guided by the general rules of medical writing as followed by the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION. (See MEDICAL WRITING by Morris Fishbein.)
3. Be brief, even while being thorough and complete. Avoid unnecessary words. Try to limit the article to 1500 words.
4. Read and re-read the manuscript several times to correct it, especially for spelling and punctuation.
5. Submit manuscript typewritten and double-spaced.
6. Articles for publication should have been read before a controversial body, e.g., a hospital staff meeting, or a county medical society meeting.

The Editor is always ready, willing, and happy to help in any way possible.

DITCH THAT DIATHERMY, DOCTOR!

WE MEAN just that, if you, dear reader, are the owner of an illegal and dangerous diathermy machine. It almost surely is illegal if made before 1947, since it was in that year that the Federal Communications Commission first assigned definite frequencies for diathermy operation. Owners were given until June 30, 1953 to dispose of these old machines or to have them changed over. Not all of them did and it is estimated that about 35% of all diathermy machines now in operation are illegal. Their continued use renders their user liable for up to \$10,000 fine and two years imprison-

ment.

"Dangerous" too, did we say? We certainly did. These pain soothing devices through their far-reaching radio interference can foul up a lot of important things. For instance one could:

1. Throw a radio-controlled guided missile off its course. Or even attract one to itself and bring you a NIKE, for example, with all its destructive force.

2. Provide a radio beam to guide an enemy plane to your office as a target.

3. Foul up instrument landings at the airport causing an airliner crash.

4. Interfere with police, and other emergency short-wave calls for miles around.

There's more but this should give you an idea. It's fact, not fiction. Distances covered by such interference are staggering. Signals from an illegal machine in Florida were picked up in the state of Washington!

Yes, we've "ditched" ours, Doctor. How about you? Do it today.

Your diathermy dealer can advise you as to what is legal and safe.

LETTER TO THE EDITOR

Dr. R. Lee Foster, Editor
Arizona Medicine Journal
Phoenix, Arizona

Dear Dr. Foster:

On a trip to Europe in the latter part of June and early part of July 1953, I made some investigations concerning the results of, and reactions to socialized medicine in Europe, primarily in England. The following is a brief resume of my impressions of what I saw and was told.

On arriving in England with my business men associates we were met by business men engaged in the building and loan business there. Medicine in England came up, and these business men, almost one hundred per cent, were very dissatisfied with the socialized medicine program as administered by the British Government. I think these men would be classified in our country as upper middle class. Certainly they would not fall into the lower income group and would not fall into the peering group. The chief dissatisfaction that I en-

countered with the business men in England concerning socialized medicine was their inability to make an appointment at their convenience, go see their doctor, and be properly taken care of. They felt that the general practitioner was too busy making house calls and taking care of the large number of patients on his panel to give proper time and consideration to any one patient. In addition to which, the custom there is for the patients to come to the doctor's clinic or office in the morning, and stand in line and wait their turns for medical treatment. This of course cuts drastically into the time of a busy man and meets with little approval. These people were busily engaged, at least from the conversation standpoint, in trying to find a family doctor for their families. Apparently there is a real scarcity of family doctors in England, because practically all of the medical men do work on the British panel system. In brief, then, from the businessman's standpoint in England, at least the ones with whom I came in contact, socialized medicine is a good thing for the underpaid and lower class of people, but is not the answer to the medical problem of the middle class or upper class of people.

While in London, I interviewed the Secretary of the British Medical Society and asked him his reaction to socialized medicine. He replied that he felt that socialized medicine had undoubtedly provided adequate medical care for a great many people who had had no medical care or practically none previously. He said he believed that the medical care was as good as before socialized medicine, but that the doctor did not have time to put all the "gingerbread" in with his practice that had previously been done. He also said that of course as anywhere else and in all walks of life there were doctors that did not practice good medicine, regardless of whether it was under a socialized setup or under a private practice setup, but he believed the percentage is about the same under the present program as if it were under private enterprise. I was also told, which was a surprise to me, that England has been under some type of socialized medicine program since 1911, either a compulsory insurance program or other methods of socialization. This to me implies that the people coming out of medical school since 1911 know nothing other than socialized medicine of one form or another. The men that were in practice at

that time and did not fall in with the socialized medicine program are all practically dying or retiring at this time and that is probably the reason the business man is having so much trouble finding a private practitioner for his own ills.

There is no doubt that the socialized medicine program in England has caused a lot of people to go to the doctor with minor injuries who would not have gone had they had to pay for their medical care. It is my understanding that in an attempt to at least in part correct this situation the government imposed a charge of one shilling, about fourteen cents, for each prescription that had to be filled, hoping that this would cut down on the unnecessary office visits. Apparently this has not helped, but it has taken part of the financial load off of the government. It is my understanding while in London that approximately seven per cent of the British national income is used in the public health program. Under the present setup the socialized medicine program includes the supplying of dentures, other dental work, and glasses, etc. And I am told there is a great deal of delay in procuring glasses or artificial dentures, especially if they should happen to have to be replaced.

There is another situation in this program that I do not believe the people in our country would approve of, namely the doctors that take care of the patients as general practitioners and care for them in their office or in the patient's home have no method of followup if the patient is ill enough to go to the hospital. Should such be the case, the patient is transferred to the care of a specialist who takes care of the situation while the patient is in the hospital and the family doctor has no knowledge of what has been done while the patient was in the hospital unless he receives it from some specialist, and this he may or may not do. In addition to this, he is unable to follow the progress of his patient while the patient is in the hospital. There is an attempt being made at this time to re-arrange the setup so that the family doctor can go into the hospital along with his patient and observe what the specialist is doing.

The patient load for the well established is quite heavy. Up until this year they were allowed to have 4000 patients on a panel. This year the load has been cut down to where they can only have 3500 patients on their panel.

Of course it is hard to say how many daily visits that would mean they had to make, but in this country we feel that one doctor is hardly able to look after that many patients. The doctor's wage depends upon how many people are on his panel, therefore they are all interested in getting as many names on the panel as possible. With a full panel the income would amount to about \$7500 in our money and there is a way, in which, if they feel the practitioner has been very active and delivered good service, that a bonus can be given at the end of the year. This bonus can amount to as much as \$2500., which would mean that a busy man giving good service might make in general practice \$10,000. as a year's salary. It is also possible for the satisfactory specialist to receive a bonus at the end of the year of about an equal amount, but I believe their pay is a little bit higher than that of the general practitioner. The well-qualified surgical specialist, including his bonus, may make in the vicinity of \$14,000 to \$15,000. yearly. Recently the British Government has increased the general practitioner's allowance per patient as the medical profession felt that they were being underpaid. That has enabled the general practitioner to realize a little more from his educational investment. However the specialists are now unhappy because they feel that the general practitioner is being overpaid in relation to the salaries that they are receiving.

I visited the Westminster Hospital while in London and thought that it was a large and well equipped hospital. It was impossible for me to see any surgery in progress or to make adequate ward rounds as I happened to get to the hospital on Friday and most of the staff had gone on a weekend holiday. It seems that weekend holidays are quite the fad in England.

While in Germany I was not in any large city, however, I did find that the medical situation is quite similar in Germany to that in England inasmuch as the panel system is used and the younger doctors are clinging to the hospital for most of their work so that they will be able to eke out an existence while trying to get themselves established. I went through the hospital at Ludwigsburg and while the equipment was old and a bit outmoded it was serviceable and they were doing a good job. The staff in Ludwigsburg were apologetic about the state of repair of their buildings and

the antiquity of their equipment, but I think they were carrying on in admirable fashion. While in Paris I visited the Foch Hospital. It is a new hospital, in fact it is not quite completed. It is very well equipped in all respects and is a nice hospital. It also has a nice location. The American doctor that visited the hospital with me, and myself, were amazed when we saw all of the facilities for outpatient care with hardly any outpatients being cared for, and the wards were not full of inpatients. I found out a few days later that the reason for this situation was that the hospital had been built in a rather underprivileged section of Paris, that the patients and people in this locality were unable to pay the costs of the hospital, that the hospital was built primarily for pay patients instead of the usual government cared for patient. I was informed that had I gone to a hospital of older vintage and in a different burrough of Paris I would have found the hospital crowded with outpatients just like we find them in our country.

In conclusion:

- A. I might say that as far as I was able to determine on a short and hurried visit to the British Isles and parts of Europe, I believe that the medical care in those countries is all quite similar, especially for the middle and lower class of people.
- B. I believe the better or higher class of people are more able to receive private attention in Germany and France than in England.
- C. It does not seem that the medical care in these countries is on an equal basis with ours, nor is the doctor's income on an equal basis with ours.
- D. The consensus seemed to be that we in the United States use entirely too many expensive medicines, anti-biotics of one kind or another without there being an actual need for such expensive treatment, the general idea being that probably the patient in many cases would recover without the use of such expensive medication, even though it might take a little longer.
- E. I do not believe from what I saw that either the American public or the medical profession of the United States would be satisfied with the socialized medicine program as I saw it in operation.

Floyd B. Bralliar, B.S., M.D., F.A.C.S.

TOPICS OF *Current Medical* INTEREST

RX., DX., AND DRS.

By Guillermo Osler, M. D.

THE Pfizer 'Spectrum' in the front advertising section of the J.A.M.A. is still going strong, apparently has a great many readers. . . . A recent issue describes the brand-new (and expensive) "DAYLIGHT FLUOROSCOPY". The machine is a Westinghouse product, and they use electronic methods to step up the low light energy of the 'old' equipment. The image is 200 times as bright and one can view it in a dimly lighted room on the viewing-mirror to which it passed from the screen (thru a special tube, amplifier, output phosphor, mirrors, lens, and window). . . . It is quite safe, allows visualization of small details, pulsations, and a televising of the image.

The **FUNGUS DISEASE**, both pulmonary and disseminated, are under attack by various new drugs. It is logical to expect that, in this day of other successful chemotherapy, that someone should 'hit'. . . . **BLASTOMYCOSIS** is said to be responding, in early reports, to the stilbamidine series. . . . **COCCIDIOIDOMYCOSIS** ('desert' or 'Valley' fever) has another 'cure' this week, tho with less assurance.

This column has thrown the full weight (repeat, full weight!) of its publicity at the high cost of **CORTISONE OINTMENTS**. . . . Now comes word from Upjohn that 'Cortef' has been reduced up to 22%. . . . Have you ever speculated on how much effect the elephant's tail has on what the elephant does? Ah well, the tail goes wherever the beastie goes.

ARIZONA MEDICINE has repeatedly discussed **AIR-COOLING** and conditioning. Everyone from us to the Stock Market has been saying "This Is The Year". . . . It won't be the only year, but it is a good start. Refrigeration cooling has moved ahead to supplement the evaporative type. . . . The changes include smaller units, lower cost, emphasis on room-coolers, combination with heating, plenty of advertising, wide variety of trade names, etc. . . . One recent issue of 'Institutions' has an article which illustrates Chrysler Airtemp, Emerson-Electric, Frigidaire, Kelvinator, RCA, York, Philco, Cory's Fresh 'nd-Aire, International Harvester, Carrier, Fedders-Quigan, and Typhoon.

The **PECULIAR THEORIES** and practice of Dr. John Gregory of Pasadena, mentioned in this column before now, have come under official scrutiny. He is known for having reported data to support a 'virus' etiology of cancer. . . . The

cancer committee of the California State Medical Society has found his methods secretive and peculiar, his evidence too scanty and unconfirmed, and the use of 'Gregomycin' not justified. . . . 'Gregomycin' is supposed to be an antibiotic which controls the 'virus', but they say it isn't the one, and doesn't the other. . . . The next step is up to the judicial committee of the Los Angeles County Medical Society.

'Hospital Topics' describes another service of the Cal. Medical Ass'n. It has a non-profit subsidiary, called "Audio-Digest Foundation", which produces up-to-date medical education on tape, as well as lectures and panel discussions which can be used for staff meetings or symposia. . . . Dr. Edward Rosenow (whose father is also famous in a streptococcal way) is Editor-in-Chief, and the Foundation headquarters are in Glendale. . . . Quite a thrill to hear famous medical speakers give their own special lectures. We have a friend who has a machine in his car, on which he plays his tapes, and to which he dictates. No effect on his driving efficiency, it is said.

The Archives of Surgery tells of the next best thing to a flight to Honolulu, but it seems hard to believe. . . . Eiseman of Denver has found that fresh, unripe coconuts yield a sterile, non-hemolytic, apparently nonantigenic fluid which **CAN BE USED INTRAVENOUSLY**. A 'transfusion' of **COCOANUT JUICE**! . . . He has used it in rabbits, dogs, and 21 humans without difficulty, tho, theoretical hazards would include reaction to small amounts of protein and a possible hyperkalemia from the relatively high potassium concentration.

Few substances in medical use have the recurrent bounce of **TUBERCULIN**. . . . It was first used for therapy, and its failure killed-off a disillusioned Koch. . . . It was then used to diagnose disease by subcutaneous injection, and was dropped abruptly in 1929. . . . It was widely used for case-finding, and was edged out of the picture by photofluorography. . . . it was praised again for use in certain groups, in certain areas of the country, but hasn't had wide usage. . . . **NOW** it is again proposed as a diagnostic method of first infection in persons who are in contact with tuberculosis. The object is to find the new infection quickly, whether accompanied by a lesion visible by chest x-ray or not, in order to start the person on **CHEMOTHERAPY** at once. . . . The use of



THE HOSPITAL BENEFIT

Bulletin

Special

Published Bi-Monthly by the Hospital Benefit Association, First Street at Willetta, Phoenix

June, 1954

HBA PAYS MORE THAN YOU THINK

Not to be compared with plans excluding emergency surgery in physician's office

Doctors and office girls should check with the Hospital Benefit Association's closest office or write for specific information before advising HBA patients that benefits are not payable for injuries treated in the office or home or at the scene of the accident.

Pays For Emergency Surgery

Hospital Benefit Association does pay for "emergency surgical treatment" rendered anywhere if treatment is given within 24 hours of the accident causing the injury. If, upon examination for suspected injuries, none are found or if they are very slight, the Association provides a \$5.00 benefit for "non-surgical accident treatment".

Fees For X-rays

The Association also provides a schedule of fees payable for x-ray examination of fractures and dislocations in the doctor's office or in the laboratory in cases of emergency surgical treatment.

Operations performed as a result of illness or diseases must be performed in a hospital to be eligible for benefits. This includes T & A and minor surgery on skin eruptions, etc. The member is eligible for hospital benefits up to 10% of the amount provided in his membership certificate for "hospital extras" for minor surgery in the hospital not requiring confinement as a bed patient.

Ask For Folder

A complete folder describing HBA Surgical Benefits will be sent on request. Phone Phoenix AL 8-4888 or Tucson 3-9421.

Remember . . .

If Surgical Benefits are to be paid, all operations must be performed in a hospital, EXCEPT emergency surgery within 24 hours of injury.

NO FIDDLING AROUND, PLEASE, AND NONE OF US WILL BURN!

The Hospital Benefit Association has no "run-around department". Both physicians and hospitals will testify to the fact that nobody . . . but NOBODY . . . is as prompt with benefits payments as Hospital Benefit Association!

The thing that pains us most, Doctor, is the "bucket", which is our office name for the box which contains files waiting for someone in various physicians' offices to get around to sending us a bill! Some of these files sit there for ages, filling up with follow-up letters to the doctor asking him to pul-eeze send us a bill on Mr. Doake's ventriculopuncture for encephalography so we can pay it!

Our form, "Statement of Surgical Charges", is very simple, and we will send you a supply if you will phone Phoenix ALpine 8-4888 or Tucson 3-9421.

However, on simple surgery performed in your office (lacerations, fractures, contusions, sprains, etc.) you can have the girl in your office make out your own bill form the very day you treat the patient and we will get your check back to you quicker than you can say acromioclavicular.

But, please, none of these "Sally Jones . . . \$15.00", or "May 14 . . . \$10.00" etc. Simply give use the patient member's name and membership number which is on the Membership Card. Tell us the nature of the accident and the date it happened. And then tell us what you did and what the fee is.

Something like this:

John Jones, No. 12345

Clipped end of finger in cigar cutter 5-15-54

Sewed end of finger back on \$00.00

In the instance of hospitalized patients, we will send you the regular Statement for Surgical Charges form, but please have it made out promptly so we can clear up our part of the bill. Then, if a balance is due from the member, you will know exactly what to bill him.

Your cooperation will be appreciated, and we will show our appreciation by prompt payment.



What did YOU tell the Kinsey Interviewer?

STILL A FEW LEFT

We still have a few copies of the booklet published recently by the Better Business Bureau, called "Facts You Should Know About Accident and Health Insurance." This booklet can be a big help when a patient asks about health plans.

We'll be glad to send you one free. Just return the coupon.

Hospital Benefit Association
Box 1272
Phoenix, Arizona
Please send free "Facts" booklet.
Name
Address
City

drugs in this situation is not yet of proved value, but it is logical and is being tried by numerous physicians. It was first suggested by J. A. Myers of Minnesota in 1947 and '48, and recently mentioned by Waring of Denver, Bogen of Los Angeles, et al.

Traut and Benson of San Francisco write of 'Cancer of the Female Genital Tract' for the American Cancer Society. They use their toughest language in speaking of VULVAR LESIONS. . . . "Carcinoma of the vulva is in all probability one of the least competently diagnosed and treated lesions in the entire field of genital cancer. . . . Despite its easily accessible situation. . . . Undue modesty has led to avoidance of examination. . . . The patient is reluctant to seek professional advice . . . she tries various salves recommended in lay publications or by the druggist or a friend. . . . Next, the local physician very commonly underestimates the situation . . . he rightly prefers to advise simple procedures first, but often errs in not taking a biopsy. . . . Furthermore, when the pathologist reports benign hypertrophic or atrophic keratosis, the physician feels reassured (and) may do a local excision. . . . We cannot over-emphasize the fact that the newest and most reliable knowledge . . . indicates that preventive surgery of an extensive type (vulvectomy) must be carried out much more frequently when only leukoplakia or keratosis is present."

The program of the Arizona Medical Association Inc. is unique in the 'DUELS' which are set up BETWEEN MEDICAL SCHOOLS. We haven't seen a notice of such a plan in any other state meeting. . . . Greenspan, Stone, and Pollack of STANFORD vs. Sims, Paul, and Young of WISCONSIN, (and the Wisconsin people who can remember the 1953 Rose Bowl are glad it wasn't S.C.).

The United States Public Health Service has pulled out of the MASS-SCREENING FOR TB field. No more cash subsidies. The states and communities will have to take up the slack. . . . They have helped 8.8 million people to be x-rayed, and found 60,000 cases of TB, as well as another huge amount of bland or bizarre chest findings. . . . Apparently economy was a major factor, plus low yields in some areas, but there certainly were other reasons to continue. . . . Hospitals are now the best site and chance for x-raying large numbers of people. The TB associations can help the hospitals and health departments to stimulate and finance such programs.

The journal 'Southern Hospitals' described what a PROFESSIONAL HOSPITAL CONSULTANT sees when he is laid up for a while, and can look around without pressure of time or fee. . . . He knew at once that there was poor service and high prices. The causes included a failure of the public relations officer to notice dissatisfaction;

supervision of maids and orderlies was poor; too many 'characters' were colorful but inefficient; ice-service was not organized; faulty liaison between the floor and the diet kitchen caused food waste; maintenance of janitors' equipment caused loss of work and time; there was uneven work distribution among nurses; rules on visiting were irregularly observed; and the admission desk failed to establish good relations with patient and relatives. . . . 'Some hospital!' one might say; or, possibly 'many hospitals'.

A good method of SANITATION FOR WATER-BATHS has been reported by Page of Galveston. . . . A small amount of 'Dreft' is used while the patient is in the bath, and the tub is cleaned with the detergent after the hydrotherapy. . . . Samples of bath-water all contained several varieties of bacteria, but the tub was sterile after the routine described. . . . It didn't say whether ordinary bath-tubs were helped (nor does it say that 'Duz' doesn't).

It is probably just as well, from the medical standpoint, that HEMOPHILIA is uncommon. The new terms (and their abbreviations) would require a brush-up course. . . . The differentiation from hemophiloid states described by Brinkhous and colleagues of Chapel Hill, N. C. Two diagnostic procedures are of great help,—the PARTIAL THROMBOPLASTIN TIME (PTT), and a simplified assay of the ANTIHEMOLYTIC FACTOR (AHF). . . . The PTT test is sensitive for the clotting defect in all but the mildest forms of hemophilia. The AHF assay results vary from 50 to 170% of normal, and in severe true hemophilia there is none of the factor present. . . . After these simple statements the problem becomes complicated and you have to write to Chapel Hill.

A 'sulfa' derivative called Diamox is said by Becker of St. Louis to halt GLAUCOMA. It has no antibacterial effect, and is non-toxic, but it lowers ocular pressure by increasing fluid outflow. . . . Seventy cases . . . We'll see.

VAGUS NERVE FUNCTION can be presumed from recent animal experiments in Boston. . . . Electrical stimulation of the central end of a vagus (cut at the diaphragm), produces retching, vomiting, salivation, changes in breathing, and slowing of the heart rate. . . . Large doses of atropine prevent the pulse changes, but have no other effect. Anaesthetic doses of a barbiturate abolish all of the results of stimulation. . . . The clinical implications are interesting, and one can see why vagotonia is sometimes hard to treat. . . . It might be mentioned that certain types of SMOG produce a syndrome of nausea, dyspnea, and bradycardia. This could partly be a direct effect on the lung, but we favor inhalation, absorption, and effect on the vagus nerves.

ANNOUNCING A NEW PAMPHLET SERIES

A new series of public relations leaflets produced by the AMA for medical societies and individual physicians. They are: 1. Dangers of going to a quack healer for medical treatment; 2. Progress made by medicine in the last 50 years; 3. Steps taken by your AMA to evaluate drugs; 4. Best way to select a family doctor.

Physicians can order the full series or individual leaflets, without charge, through state medical societies.

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Are you thinking of relocating your office! Or perhaps you need an office for your son!

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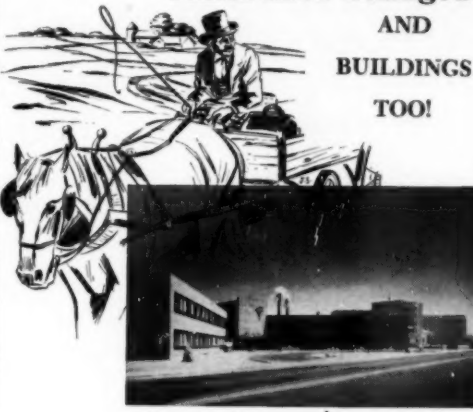
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Disability by Accident
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Interesting TOPICS

RECOMMENDED READING IN CURRENT MEDICAL JOURNALS

OSTEOID OSTEOMA. A nice article by Mary Sherman of New Orleans, in the *Journal of the Louisiana State Med. Soc.*, for December, 1953.

MENSTRUAL IRREGULARITIES. A simple diagnostic approach. Given and Gause, of New York. *Texas State Journ. of Med.*, November, 1953.

ENDOMETRIOSIS. As encountered in private practice. Joe R. Donaldson, Pampa, Texas. *Texas State Journ. of Med.*, November, 1953.

INFECTIOUS MONONUCLEOSIS. Treatment with corticotropin. Bender and Houghton, Seattle. *Northwest Medicine*, November, 1953. Reports good results in eleven patients.

ARTHRITIS. Recent trends in medical treatment. T. E. Weiss, New Orleans. *The Journ. of the Louisiana State Med. Soc.*, Nov., 1953.

FRACTURES. Hand and Finger, by Wesley H. Burnham, Minneapolis; Wrist Injuries, by E. H. Juers, Red Wing, Minn.; Occult Dislocation of Ankle, by Millett and Henry, Minneapolis. Very instructive and well illustrated series of articles in *Minnesota Medicine* for November, 1953.

VACCINATION AGAINST INFLUENZA. Dorland J. Davis, Bethesda, Md., *Medical Annals of the District of Columbia*, December, 1953. An article on a subject of interest to every practicing physician.

INFLUENZA IN THE U. S. IN 1952-53. Dorland J. Davis, *Public Health Reports*, December, 1953. An informative article presenting "the broad picture . . . that influenza A was widespread throughout the Americas and Europe during the 1953 season."

URINARY INFECTIONS. The present status of their management. A very readable article covering diagnosis, and antibiotic treatment. By Theodore R. Fetter, Philadelphia, Professor of Urology, Jefferson Medical College. *Deleware State Med. Journ.*, Nov., 1953.

ALCOHOLISM & THE GENERAL PRACTITIONER. In the *Deleware State Med. Journ.* of November, 1953, is a short article by H. T. McGuire, more logical and sensible than anything the Yale School for the Study of Alcohol ever put out. Good reading for anyone who wants facts and not propaganda.

JAUNDICE. James C. Cain, of the Mayo Clinic, writing in *Texas State Journal of Med.*, December, 1953, gives an excellent analysis and discussion on the differential diagnosis of mild painless jaundice.

PULMONARY CYSTS. A well illustrated article by King and Cole, on this subject appears in *Texas State Journ. of Med.*, for December, 1953.

PANCREATITIS. Studies on. A good paper from Australia by Saint and Weiden, of the Royal Melbourne Hospital. *British Med. Journ.* December 19, 1953.

TUBERCULOSIS. The *Journal-Lancet* of April, 1954, is a special issue on Diseases of the Chest, mainly tuberculosis.

VERTIGO AND DIZZINESS. From the Viewpoint of the Internist. By Vince Mosely, in *Journ.*, of *South Carolina Med. Ass'n.*, April, 1954.

PELVIMETRY. Plea for its routine use in primiparas. Hildreth in *The Journ. of the Mich. State Med. Soc.*, for March, 1954.

OUR THERAPEUTIC TOWER OF BABEL. A criticism of our constantly mounting complexity of therapeutic products. Belknap, in *The Journ. of the Maine Med. Ass'n.*, March, 1954.

EHRlich and von BEHRING. For the historically minded, three articles on Paul Ehrlich and one on Emil von Behring, on *British Med. Journ.* for March 20, 1954, will be of special interest.

INFECTIOUS MONONUCLEOSIS. Syndrome or a Disease? Shubert, Collee and Smith, in *British Med. Journ.* for March 20, 1954. They discuss outstanding differences between sporadic and epidemic forms.

ARIZONA *Pharmaceutical* PAGE

CODE OF ETHICS OF THE ARIZONA PHARMACEUTICAL ASSOCIATION

THE Code of Ethics of the Arizona Pharmaceutical Association is a statement of principles adopted by the profession on a national level for the self-government of its members.

The primary obligation of pharmacy is the service it can render to the public in safeguarding the preparation, compounding, and dispensing of drugs and the storage and handling of drugs and medical supplies.

The practice of pharmacy requires knowledge, skill, and integrity; therefore, the state laws restrict the practice of pharmacy to persons with special training and qualifications and license to them privileges which are denied to others. Accordingly, the pharmacist recognizes his responsibility to the state and to the community for their well-being, and fulfills his professional obligations honorably.

THE PHARMACIST AND HIS RELATIONS TO THE PUBLIC

The pharmacist upholds the approved legal standards of the United States Pharmacopeia and the Nation Formulary, and encourages the use of official drugs and preparations. He purchases, compounds, and dispenses only drugs of good quality.

The pharmacist uses every precaution to safeguard the public when dispensing any drugs or preparations. Being legally entrusted with the dispensing and sale of these products, he assumes this responsibility by upholding and conforming to the laws and regulations governing the distribution of these substances.

The pharmacist seeks to enlist and to merit the confidence of his patrons. He zealously guards this confidence. He considers the knowledge and confidence which he gains of the ailments of his patrons as entrusted to his honor, and does not divulge such facts.

The pharmacist holds the health and safety of his patrons to be of first consideration; he makes no attempt to prescribe for or to treat disease or to offer for sale any drug or medical device merely for profit.

The pharmacist keeps his pharmacy clean, neat, and sanitary, and well-equipped with accurate measuring and weighing devices and other apparatus suitable for the proper performance of his professional duties.

The pharmacist is a good citizen and upholds and defends the laws of the state and nation; he keeps informed concerning pharmacy and drug laws, and other laws pertaining to health and sanitation, and cooperates with the enforcement authorities.

The pharmacist supports constructive efforts in behalf of the public health and welfare. He seeks representation on public health committees and projects and offers to them his full cooperation.

The pharmacist at all times seeks only fair and honest remuneration for his services.

THE PHARMACIST IN HIS RELATIONS TO THE OTHER HEALTH PROFESSIONS

The pharmacist willingly makes available his expert knowledge of drugs to other health professions.

The pharmacist refuses to prescribe or to diagnose; he refers those needing such service to a properly licensed practitioner. In an emergency and pending the arrival of a qualified practitioner, he applies such first-aid treatment as is dictated by humanitarian impulses, scientific knowledge and judgment.

The pharmacist compounds and dispenses prescriptions carefully and accurately, using correct pharmaceutical skill and procedure. If there is any question in the pharmacist's mind regarding the ingredients of a prescription, a possible error, or the safety of the directions, he privately and tactfully consults the practitioner before making any changes. He exercises his best professional judgment and follows, under the laws and existing regulations, the prescriber's directions in the matter of refilling prescriptions, copying the formula upon the label, or giving a copy of the prescription to the patient. He adds any extra directions or

(Continued on Next Page)

caution or poison labels only with proper regard for the wishes of the prescriber, and the safety of the patient.

The pharmacist does not discuss the therapeutic effects or composition of a prescription with a patient. When such questions are asked he suggests that the qualified practitioner is the proper person with whom such matters should be discussed.

The pharmacist considers it inimical to public welfare to have any clandestine arrangement with any practitioner of the health sciences by which fees are divided or in which secret or coded prescriptions are involved.

THE PHARMACIST AND HIS RELATIONS TO FELLOW PHARMACISTS

The pharmacist strives to perfect and enlarge his professional knowledge. He contributes his share toward the scientific progress of his profession and encourages and participates in research, investigation, and study. He keeps himself informed regarding professional matters by reading current pharmaceutical, scientific, and medical literature, attending seminars and other means.

The pharmacist seeks to attract to his profession youth of good character and intellectual capacity and aids in their instruction.

The pharmacist associates himself with organizations having for their objective the betterment of the pharmaceutical profession and contributes his share of time, energy, and funds to carry on the work of these organizations.

The pharmacist keeps his reputation in public esteem by continuously giving the kind of professional service that earns its own reward. He does not engage in any activity or transaction that will bring discredit or criticism to himself or to his profession.

The pharmacist will expose any corrupt or dishonest conduct of any member of his profession which comes to his certain knowledge, through those accredited processes provided by the civil laws or the rules and regulations of pharmaceutical organizations, and he will aid in driving the unworthy out of the calling.

The pharmacist does not lend his support or his name to the promotion of objectionable or unworthy products.

The pharmacist courteously aids a fellow pharmacist who may request advice or professional information or who in an emergency, may need supplies.

The pharmacist will not imitate the labels of his competitors or attempt to take any unfair advantage of their professional or commercial success. He does not fill orders that he knows are intended for a competitor. He deals fairly with manufacturers and wholesalers and recognizes the significance and legal aspects of brand names and trademarked products. He adheres to fair business practices, meets his obligations promptly, and fulfills his agreements and contracts.

The pharmacist is proud to display in his establishment his own name and the names of other pharmacists employed by him.

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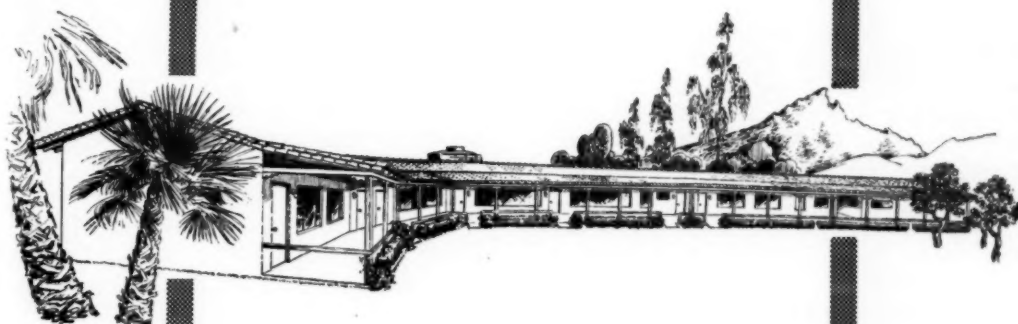
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Organization PAGE

CIVICS

Norman A. Ross, M.D., Phoenix, Arizona

NATIONAL FOUNDATION FOR INFANTILE PARALYSIS, 120 Broadway, New York 5, New York; State Office, 39 West Adams, Phoenix.

From the National Foundation for Infantile Paralysis this reporter has received copies of two pamphlets, the titles of which are "Control Measures in Poliomyelitis" and "Definitive and Differential Diagnosis of Poliomyelitis". ARIZONA BLUE CROSS-BLUE SHIELD, 605 North 7th Avenue, Phoenix.

"The Truth About Health Insurance", a reprint from CHANGING TIMES, The Kiplinger Magazine, December 1953, has been distributed to the participating physicians and hospitals of Blue Cross and Blue Shield. We have been informed that copies are available to physicians for distribution to their patients.

This is a part of the program of Blue Cross-Blue Shield to acquaint the medical profession with the economics of health insurance. This service has now been extended, because of its wide physician member interest, so that you may now furnish this reprint to your patients.

Contact Blue Cross-Blue Shield for copies of this reprint as you need them.

THE ARIZONA DIVISION OF THE AMERICAN CANCER SOCIETY, INC., 1429 North 1st Street, Phoenix.

The annual Seminar on Cancer this organization sponsors and finances evidencing recognition of its dependence on our profession.

Call or contact the state or local office of the Cancer Society as we did for material. Call them for your next speaking assignment.

You will be pleasantly surprised by the very cordial greeting, as well as the type and volume of material that will be delivered to your office. Ask about moving pictures.

You will get a list of public educational films both lay and professional. We are advised that all of these are available to us, immediately or later depending on previous commitments. For each film listed there is a descriptive paragraph, and advice as to the type of audience toward which it can best be directed.

Fifteen films are for lay viewing. All but one of these films in the Cancer Society's programming is for medical participation and cooperation. One film exposes quackery.

There are also six films of a technical nature and for professional viewing. All of which are directed toward broad physician interest.

This list is a must in the files of the physician. ARIZONA SOCIETY FOR CRIPPLED CHILDREN AND ADULTS, 207 Arizona Title Building, Phoenix.

Summer program of the Society:

Three separate programs of aid to Arizona's handicapped children will be conducted during the summer months by the Arizona Society for Crippled Children and Adults (the Easter Seal group).

A five-week course of education and treatment for cerebral palsy youngsters will be held from July 6 through August 6 at Prescott. Purpose of the clinic is to give direct service treatment to cerebral palsy children from all counties where the advantages of a concentrated rehabilitation program do not exist. In addition to the direct service to the children, the program will offer parent education through lectures, demonstrations and actual supervised participation in carrying out treatment procedures.

Children who will attend the clinic have been screened throughout the past year in the Society's statewide itinerant regional clinic program.

Also in operation under the sponsorship of the Society will be a clinic and course in speech problems for the classroom teacher at Flagstaff State College. Here again the children have been referred as a result of the screening done in the regional clinic program.

At the Samuel Compers Memorial Clinic in Phoenix the Maricopa county chapter of the Society will conduct a special five-week workshop on speech and hearing problems in addition to continuing the regular therapeutic program for orthopedically handicapped youngsters.

ARIZONA TUBERCULOSIS AND HEALTH ASSOCIATION, 11 East Willetta, Phoenix.

As this issue of Arizona Medicine goes to press, hundreds of physicians from every state in the Union, the territories, Canada and several foreign countries are gathering in Atlantic City, New Jersey to celebrate the Fiftieth Anniversary of the founding of the National Tuberculosis Association.

In a recent report to the Board of Directors of the National Tuberculosis Association, its Committee on Policy reported "that tuberculosis remains the major health problem in the United States which is known to be preventable. While great strides have been made in our country-wide program, nevertheless the program for the control of tuberculosis for the major part of the nation is far from adequate."

To achieve eradication of tuberculosis and to prevent resurgence of the disease, the Committee urged that existing programs be intensified and supplemented by increasing concern with broad public health programs, which will increase the resistance in man against tuberculosis.

Department of Otolaryngology University of Illinois

The Department of Otolaryngology, University of Illinois College of Medicine, announces its basic science course in otolaryngology offered by its affiliated hospitals. This combined post-graduate course and residency will begin its 1954-55 session on July 1, 1954. Other openings occur throughout the year. Residencies are available at either the Research and Educational Hospital or the Illinois Eye and Ear Infirmary, or a continuation of the training program may be arranged for the Veterans Administration Hospital at Hines.

A stipend is offered on the following basis:

First year residency\$1320 annually
Second year residency 1620 annually
Third year residency 1920 annually
Application forms are available on request to the Department of Otolaryngology, University of Illinois College of Medicine, 1853 West Polk Street, Chicago 12.

BOOK REVIEW

REVIEW OF PHYSIOLOGICAL CHEMISTRY by Harold A. Harper, Ph.D., published by Lange Medical Publications, University Medical Publishers, P. O. Box 1215, Los Altos, California, Price \$4.00.

This is one of the most useful and practical reference books on this subject which I have seen. This represents the latest knowledge in a rapidly advancing subject arranged in lecture type presentation with many diagrams and illustrations to clarify the material presented. These illustrations are very much reminiscent of blackboard illustrations given during the course of lectures. Very much of the material is presented in tabular form for ready reference or quick review. According to the author the book is intended as a supplement to the standard text and biochemistry and a companion volume for the student in such courses. It is also hoped that the book would serve as a means of review for the physician preparing for state and specialty boards and a means for keeping abreast of this rapidly expanding subject. I feel that the aims have been well realized and I feel that every physician who sees this volume will want it for his library. It is worthy of note that the book is put up in an inexpensive form with an inexpensive cardboard binding, keeping the price down to a figure which should make it possible to get the new revisions which we hope will be published from time to time.

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CORPORATE PRACTICE OF MEDICINE

*Resolution Adopted by House of Delegates
Arizona Medical Association, Inc.*

April 28, 1954

WHEREAS, current standards of medical practice in the United States are unequaled elsewhere in the world; and

WHEREAS, freedom of choice of physician, with direct and immediate physician-patient relationship, is essential if patients are to enjoy the best of medical care; and

WHEREAS, American medicine has endeavored in every possible way to make prepaid medical care available to the public on a voluntary basis; and

WHEREAS, in connection with certain prepaid medical care plans, a temporary and purely economic advantage seems to be afforded to an operation under a closed panel system with full or part-time salaried physicians; and

WHEREAS, the interjection of a third party in the physician-patient relationship is obviously undesirable, since the interest of the employer must necessarily be dominant, resulting inevitably in more or less interference with professional practices, as, for example, limitation respecting certain procedures and/or materials, the utilization of nurses in lieu of physicians to an undesirable degree, et cetera; and

WHEREAS, while the corporate practice of medicine is illegal in Arizona, the constructive objectives of such law are lost when, in the functioning of a closed panel system, there is superimposed a corporate overlord (or an all-powerful layman) with total and effective control of the closed panel prepaid medical care plan and of all the employees thereof; and

WHEREAS, in connection with the functioning of these closed panel systems, there is a tendency, when groups are insured,—and it is probably an absolute necessity if such systems are to continue to exist—to require that every employee in a given group be covered, thus making "captives" of many unwilling individuals; be it therefore,

RESOLVED that the Board of Directors of the Maricopa County Medical Society after full consideration because of the inherent threat to the high standards of medical practice, and particularly because of the potential injury to individual captive patients, does now and hereby

declare that the operation of such closed panel systems in prepaid medical care plans is undesirable and injurious to the public welfare, and be it further

RESOLVED that it is the expressed opinion of the House of Delegates of the Arizona Medical Association that any member of this society who participates or practices as a member of a closed panel system in a prepaid medical care plan such as hereinabove described which has not been approved by the Medical Council of the Arizona Medical Association or its House of Delegates is not acting in a manner in accordance with the letter or the spirit of the Principles of Medical Ethics of the American Medical Association.

FOREIGN-TRAINED DOCTORS CREATING PROBLEM, CONFERENCE TOLD

LICENSURE and medical care problems created by the heavy influx of foreign-trained doctors commanded a great deal of attention at the 50th annual Congress on Medical Education and Licensure in Chicago, February 7-9.

The congress was sponsored by the American Medical Association's Council on Medical Education and Hospitals, the Federation of State Medical Boards of the United States and the Advisory Board for Medical Specialties.

"The infiltration of the medical profession of the United States by large numbers of doctors who have not been able to obtain a proper basic professional education is almost certain to lower the general level of practice in this country," Dr. Willard C. Rappleye, New York, dean of Columbia University College of Physicians and Surgeons, told the meeting.

"The numbers coming in are so large that they cannot readily be absorbed without that effect."

Dr. Rappleye pointed out that the United States government, in fostering international good will, is admitting large numbers of displaced persons, including physicians about whose professional ability no questions are asked. More will be admitted by recent legislation which permits the entrance of several hundred thousands of immigrants above previous quotas, he said.

He added that unless this situation is met

"with courage and the conviction that we shall not surrender the results of 40 years of effort in raising the standards of medical licensure, practice and education," we may revert to conditions resembling those of 50 years ago.

Dr. Stiles D. Ezell, Albany, secretary of the New York Board of Medical Examiners, also called attention to the inadequacy of the medical training of most of the foreign doctors seeking to practice in the United States.

Dr. Ezell said that except for Great Britain and the Scandinavian countries the last war brought destruction and degeneration to European medical education.

"Even before the elimination of the last of the unapproved medical schools in this country, there had begun a migration of physicians to this country which has now reached a total of more than 20,000," he stated. "The challenge in this fact is that the profession has not been prepared to understand what is involved in such a massive movement, nor has it realized the numerous deficiencies involved in the collective educational background of this group."

He pointed out that large numbers of foreign graduates have completed specialized training without any consideration of the deficiencies in their basic medical training or their eligibility for licensure.

Dr. Edward L. Turner, Chicago, secretary of the Council on Medical Education and Hospitals, recommended the adoption of a uniform plan for screening the professional competence of foreign-trained doctors.

Such a uniform procedure, Dr. Turner said, would be of greater assistance to state medical licensing boards than the present attempts to evaluate and list foreign medical schools. He pointed out that there are problems and difficulties in evaluating foreign medical schools which are "almost insurmountable."

Dr. Turner reported that the Council on Medical Education and Hospitals and the executive council of the Association of American Medical Colleges have compiled a list of 39 foreign schools which provide basic medical education on a par with that of approved schools in the United States, but said there are more than 550 medical schools in the world.

He said that while the council has endeavored to indicate that the absence of a school from this current listing does not indicate either approval or disapproval, but means primarily lack

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of adequate information, the absence of listing frequently serves to deny a graduate the right to examination before a state board.

"It seems advisable that there should be a careful analysis of state medical practice acts with serious consideration being given to the cooperative development of some commonly acceptable yardstick or screening mechanism to evaluate competence of the foreign graduate," Dr. Turner stated.

He suggested that the National Board of Medical Examiners could become a highly effective aid to state boards in determining whether foreign-trained physicians were eligible for further state board consideration for licensure. The National Board, at the request of the state board, could conduct the examination for professional competency, and the state board could then determine if the candidate met other requirements for licensure, he added.

ANNUAL MEETING INTER-SOCIETY CYTOLOGY COUNCIL

The second annual meeting of the Inter-Society Cytology Council will be held in Boston, Friday and Saturday, November 12 and 13, 1954. Those having material to present are invited to submit three copies of the title and an informative abstract of not more than 200 words to Dr. John Graham, Chairman of the Program Committee, 32 Fruit Street, Boston, Massachusetts, before July 15, 1954. Abstracts of all papers accepted will be published in the official program.

For additional information please contact the Secretary-Treasurer, Inter-Society Cytology Council, 634 North Grand Blvd., St. Louis, Mo.

Woman's AUXILIARY



Left to right: Mmes. Brick P. Storts, Tucson, President; Roy Hewitt, Tucson, President-Elect; George S. Enfield, Phoenix retiring president; John J. Kloby Yuma, 2nd Vice President; and M. W. Phillips of Prescott, Secretary.

REPORT OF CONVENTION CHAIRMAN Auxiliary to the State Medical Association, 1954

THE 1954 Arizona State Medical Convention was held from April 25-28 at the San Marcos Hotel in Chandler, Arizona. The success of this convention was largely due to the excellent cooperation and work on the part of the auxiliary members from Chandler. Mrs. James Meason, Mrs. C. L. von Pohle, Mrs. D. I. Arnow and Mrs. Seth Douthett all worked hard and faithfully in carrying out their various duties.

In the fall, all arrangements for meeting rooms, room for our state president, etc., were made with Mr. Robert Carpenter, the secretary of the State Medical Association. These were checked with Mr. John Quarty, manager of the San Marcos Hotel.

Mrs. Enfield and I worked on a tentative program in February and this was sent to Mr. Carpenter to publish in the final program.

In April an invitation to the meetings and the social functions was written for Arizona Medicine. On behalf of the president the following people were notified of their duties during the convention:

Registration—Mrs. Douthett and Mrs. Arnow.

Transportation—Mrs. C. L. von Pohle.

Publicity—Mrs. A. B. Taylor.

Decorations—Mrs. James Meason.

Brunch—Mrs. D. G. Carlson.

Luncheon—Mrs. D. I. Arnow.

Address of Welcome at the luncheon—Hostess County President, Mrs. Paul Jarrett.

Response—Mrs. Harry Southworth, Prescott.

Greetings at the Brunch—Mrs. Robert Cummings, incoming county president.

Installation of Officers—Mrs. J. M. Greer.

In March the names of the guest orators were secured from Mr. Carpenter and personal notes were written to each, inviting their wives to be the guests of the auxiliary for the luncheon and the brunch. Personal notes were also written to the following men, inviting them to the opening session luncheon:

1. State President.
2. Immediate Past President
3. Chairman of the Advisory Council.
4. Secretary of the State Association.
5. The Rev. Mr. Charles Kendall.

In March the chairman arranged for the printing of the tickets through O'Neil's Letter Shop, after the price and menu were decided on by the chairman of those affairs. The luncheon was \$3.00 and the brunch \$2.25. The decoration chairman, Mrs. Meason arranged for the corsages for the two affairs. These were given to all the women at the head table and to the wives of the guest orators. The luncheon and the brunch were both presided over by the state president, Mrs. George Enfield. At the head table at the luncheon were:

State President of the Auxiliary
State President of the Medical Ass'n.
President-Elect of the Auxiliary
First Vice-President of the Auxiliary
Parliamentarian
National Representative
Recording Secretary of the Auxiliary
Chairman and two members of the advisory council.

Rev. Charles Kendall.

Luncheon was \$3.00 and there were 96 present.

The seating at the head table for the brunch was the same with the exception of the men. Mrs. J. M. Greer was at the head table as she was to install the new officers. Also invited

to sit at this table were the wife of the president of the state association, chairman of the brunch, and the secretary of the state association.

The new state auxiliary president was introduced last and asked to introduce her new board. This brunch was \$2.25 and there were 91 present. The group was entertained by a styleshow by Goldwaters, Mrs. John Green, Mrs. C. C. Craig, Mrs. Robert Cummings and Mrs. John Eisenbeiss were very attractive models and added a great deal to the affair.

Tuesday night we had planned a dutch treat dinner, having a list at the registration desk. Very few signed up, but over 60 turned out for this. We had mostly planned it for wives whose husbands might be attending meetings but as it turned out there were a great many men there. Monday morning there was a golf game for interested women and the prizes for this event were given out at the luncheon. We had planned an evening of bridge on Monday night but as so few came we gave the prizes as door prizes at the brunch.

This 1954 convention was larger than any so far. 139 women were registered. The San Marcos Hotel was filled to capacity and in between meetings the swimming pool and other facilities were enjoyed to the utmost.

The Convention closed with the dinner dance Wednesday night. This was a beautiful party in all respects.

Respectfully submitted,
Isabel A. Cruthirds
Phoenix, Arizona

NEWS NOTES

A course in "Newer Developments in Cardiovascular Diseases" will be given at The Mount Sinai Hospital, New York, October 11th through 15th, 1954, under the auspices of the American College of Physicians. As the title implies, the recent advances will be stressed. Dr. Arthur M. Master and Dr. Charles K. Friedberg will direct the course and prominent cardiologists and cardiac surgeons will participate.

ANNUAL MEETING AMERICAN ASSOCIATION OF BLOOD BANKS

Seventh Annual Meeting of American Association of Blood Banks, Shoreham Hotel, Washington, D. C., September 13-14-15, 1954.

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Postgraduate Medical Assembly of South Texas TWENTIETH ANNUAL MEETING

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Prof. and Chairman of Dept. of Urology, Tulane Univ. School of Medicine.
Frederick B. Campbell, M. D., Kansas City
Executive Staff General Hospital and St. Mary's Hospital; Past President American Proctological Society.
Ramon Castroviejo, M. D., New York City
Director of the Corneal Surgery Clinic of the New York Eye and Ear Infirmary; Clinical Prof. of Ophth. of New York Univ. Postgraduate School of Medicine.
John J. Conley, M. D., New York City
Chief of the Head and Neck Dept., Pack Medical Group; Clin. Prof. of Otolaryngology New York University.
Matthew S. Ersner, M. D., Philadelphia, Pa.
Prof. and Head of the Dept. of Otorhinology and Rhinoplasty, Temple Univ. School of Med.
C. Allen Good, M. D., Rochester
Section of Diagnostic Roentgenology, Mayo Clinic; Mayo Assoc. Prof. Radiology Foundation, Graduate School, University of Minnesota.
Franklin M. Hanger, M. D., New York City
Prof. of Medicine, Columbia Univ. College of Phys. & Surg.; Attending Physician, Presbyterian Hospital.
L. E. Harris, M. D., Rochester
Consultant, Section of Pediatrics, Mayo Clinic; Instructor in Pediatrics, Mayo Foundation, Graduate School.
William K. Keller, M. D., Louisville
Prof. of Psychiatry, Univ. of Louisville, School of Medicine.
Clarence S. Livingood, M. D., Detroit
Physician-in-charge, division of Dermatology, Henry Ford Hospital, Detroit

A. E. Maumenee, M. D., San Francisco
Prof. of Surgery of Ophth. Stanford University School of Medicine.
Gordon McCaer, M. D., New York City
Assoc. Attending Surgeon, Gastric and Mixed Tumor Services, Memorial Hospital, N. Y. C.; Consultant, Surgery (Gastro.) Roosevelt Hosp., New York City.
Lester M. Morrison, M. D., Los Angeles
Senior Attending Physician and Director Atherosclerosis Research Unit, Los Angeles County General Hospital, Lecturer in Medicine, Medical School, College of Medical Evangelists.
Myron Prinzmetal, M. D., Los Angeles
Attending Physician, Cedars of Lebanon Hosp.; Assoc. Clinical Prof. of Medicine, Univ. Calif.
Duncan E. Reid, M. D., Boston
Prof. of Obstetrics, Harvard Medical School; Obstetrician-in-chief, Boston Lying-in Hospital.
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